DRAFT

INITIAL STUDY
MITIGATED NEGATIVE DECLARATION

BIDWELL-SACRAMENTO RIVER STATE PARK
BIG CHICO CREEK ACCESS TO SACRAMENTO RIVER PROJECT

October 2005

State of California
DEPARTMENT OF PARKS AND RECREATION

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MITIGATED NEGATIVE DECLARATION

PROJECT: **BIG CHICO CREEK ACCESS TO SACRAMENTO RIVER PROJECT**

LEAD AGENCY: California Department of Parks and Recreation

AVAILABILITY OF DOCUMENTS: The Initial Study for this Mitigated Negative Declaration is available for review at:

- Northern Service Center
  California Department of Parks & Recreation
  One Capitol Mall - Suite 410
  Sacramento, CA 95814

- Northern Buttes District Headquarters
  California Department of Parks & Recreation
  400 Glen Drive
  Oroville, CA 95966

- Butte County Library, Chico Branch
  1108 Sherman Avenue
  Chico CA, 95926
  530-891-2762

- California Department of Parks and Recreation website
  http://www.parks.ca.gov/default.asp?page_id=981

PROJECT DESCRIPTION:
The proposed project will provide interim day-use and overnight facilities at Big Chico Creek Riparian Area in Bidwell-Sacramento River State Park. All facilities will comply with Americans with Disabilities Act (ADA) standards, and will include:

- Paved entryway to the site from River Road.
- Small unpaved parking area, including 13 passenger car spaces and two car-and-trailer spaces. One space will be ADA van accessible.
- Sloped 10' wide by 40' long ramp intended for hand carrying lightweight boating vessels (kayaks, canoes) from vehicles into the water.
- Three day use picnic sites with concrete picnic tables.
- One accessible portable chemical toilet near the day use picnic sites.
- Accessible walking/hiking trails located throughout the parcel totaling approximately one mile.
- Installation of various regulatory and interpretive signs.

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/Mitigated Negative Declaration should be submitted in writing to:

Gail Sevrens – Environmental Coordinator

California Department of Parks & Recreation
Northern Service Center
One Capitol Mall - Suite 500
Sacramento, CA 95814

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the Initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.

_____ _____

Gail Sevrens Date
Environmental Coordinator

Original Signature on File _____

Robert K. Foster Date
District Superintendent

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Appendices

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Big Chico Creek Access to Sacramento River Project at Bidwell-Sacramento River State Park (SP), Butte County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq*.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

1.2 LEAD AGENCY

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency is:

Matt Teague
Project Manager
California State Parks
400 Glen Drive
Oroville, CA 95966-9222
(530) 538-2364

Questions or comments regarding this Initial Study/Mitigated Negative Declaration should be submitted to:

Gail Sevrens – Environmental Coordinator
California Department of Parks and Recreation
Northern Service Center
One Capitol Mall, Suite 500
Sacramento, California 95814
Fax: (916) 445-9100
Email: gsevr@parks.ca.gov

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Big Chico Creek Access to Sacramento River Project at Bidwell-Sacramento River State Park. Mitigation measures have also been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
  This chapter provides an introduction to the project and describes the purpose and organization of this document.

- Chapter 2 - Project Description.
  This chapter describes the reasons for the project, scope of the project, and project objectives.

- Chapter 3 - Environmental Setting, Impacts, and Mitigation Measures.
  This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less-than-significant level.

- Chapter 4 - Mandatory Findings of Significance
  This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.

- Chapter 5 - Summary of Mitigation Measures.
  This chapter summarizes the mitigation measures incorporated into the project as a result of the Initial Study.

- Chapter 6 - References.
  This chapter identifies the references and sources used in the preparation of this IS/MND. It also provides a list of those involved in the preparation of this document.

- Chapter 7 - Report Preparation
  This chapter provides a list of those involved in the preparation of this document.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental (Initial Study) Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project.

Based on the IS and supporting environmental analysis provided in this document, the proposed Big Chico Creek Access to Sacramento River Project at Bidwell-Sacramento River State Park would result in less-than-significant impacts for the following issues:

aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.

In accordance with §15064(f) of the CEQA Guidelines, a MND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of mitigation measures in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Mitigated Negative Declaration be adopted in accordance with the CEQA Guidelines.

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CHAPTER 2
PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Big Chico Creek Access to Sacramento River Project at Bidwell-Sacramento River State Park, located on River Road between West Sacramento Avenue and Chico River Road, Butte County, California.

2.2 PROJECT LOCATION

The Big Chico Creek Access to Sacramento River Project site is proposed for the Big Chico Creek Riparian Area subunit of Bidwell-Sacramento River State Park. The project site is located just northeast of River Road between West Sacramento Avenue and Chico River Road, Butte County, California. The project site is bounded on the west by the Sacramento River, on the southwest by River Road, on the southeast by Big Chico Creek, on the east by Mud Creek, and on the north by the Singh Orchard Addition. See Appendix A for project maps.

2.3 BACKGROUND AND NEED FOR THE PROJECT

Bidwell-Sacramento River State Park was formally classified as a State Park in 1990. A Preliminary General Plan/Draft Environmental Impact Report for the Park was filed with State Clearinghouse in December, 2003 (State Clearinghouse #2003022113). A revised plan is forthcoming.

The purpose of the proposed project is to provide interim public use facilities at the Big Chico Creek Riparian Area subunit for recreational uses such as kayaking/canoeing, bird watching, nature study, fishing, and other outdoor activities. All facilities will be reversible/removable.

2.4 PROJECT OBJECTIVES

The objectives of this proposed project are primarily to provide interim public use facilities and access while protecting natural and cultural resources.

2.5 PROJECT DESCRIPTION

The proposed project will provide interim day-use facilities at Big Chico Creek Riparian Area. All facilities will comply with Americans with Disabilities Act (ADA) standards, and will include:

- Paved entryway, 20’ wide by 100’ long, to the site from River Road, aligned with the existing park entrance on the opposite side of River Road.
- Small unpaved parking area, surface graded, compacted, and covered with four inches of aggregate (gravel). The parking area will include 13 passenger car spaces and two car-and-trailer spaces. One space will be ADA van accessible.
- Sloped 10’ wide by 40’ long ramp intended for hand carrying lightweight boating vessels (kayaks, canoes) from vehicles into the water. The ramp will be constructed of precast concrete.
- Three day use picnic sites with concrete picnic tables.

- One accessible portable chemical toilet near the day use picnic sites.
- Accessible walking/hiking trails located throughout the parcel totaling approximately one mile.
- Installation of various signs: two to three at entrance (stop, entrance, regulatory), three to five at day use area (regulatory, guide, parking, interpretive), and two at trail intersections (guide).
- Annual maintenance will include removal of silt deposited by winter flooding. Silt will be deposited off site.

2.6 PROJECT CONSTRUCTION

Wet weather precludes the work from taking place during winter months. Construction is expected to take approximately three months to complete.

Construction is anticipated to use the following equipment:

Type of Equipment	No. of Expected Days of Use
Backhoe	1
Grader	1
Chainsaw	1
Trail tractor	4
Grader and roller - gravel	15
Grader and roller - asphalt	1
Gravel delivery truck	3 (approx. 5 trips per day)

Individual crew vehicles may also be on-site during the day. No equipment will be stored on-site overnight. Materials will not be stored on-site.

Work would generally occur between 7 a.m. and 5 p.m. on weekdays, except as necessary to address emergencies or other unforeseen circumstances. The public will be prohibited from entering areas immediately surrounding areas of active construction.

2.7 VISITATION TO BIDWELL-SACRAMENTO RIVER STATE PARK

The following table summarizes visitation data for all of Bidwell-Sacramento River State Park.

Fiscal Year	Paid Day Use	Free Day Use	Overnight Camping	Total Attendance
2001-2002	18,108	125,164	62	143,334
2002-2003	24,309	94,366	78	118,753
2003-2004	36,153	111,019	221	147,393

Source: California Department of Parks and Recreation

Data are not available for the Big Chico Creek Riparian Area subunit.

2.8 CONSISTENCY WITH LOCAL PLANS AND POLICIES

The project is consistent with local plans and policies, including the Butte County General Plan, the Preliminary General Plan for the Park, and the Sacramento River Conservation Area Forum policies. For more information, please see Chapter 3, Section IX, Land Use and Planning.

2.9 DISCRETIONARY APPROVALS

DPR has approval authority for implementation of projects within Bidwell-Sacramento River State Park. Consultation with and/or permits from the California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, State Water Resources Control Board, Central Valley Regional Water Quality Control Board, NOAA Fisheries, and State Reclamation Board may be necessary. No authorization or lease is required from the California State Lands Commission.

2.10 RELATED PROJECTS

DPR often has other maintenance programs and rehabilitation projects planned, ongoing, or recently completed in the same vicinity as a proposed project. For Bidwell-Sacramento River SP, these include:

- General Plan. A Preliminary General Plan/Draft Environmental Impact Report for the Park was filed with State Clearinghouse in December, 2003 (State Clearinghouse #2003022113). A revised Preliminary General Plan/Draft Environmental Impact Report is forthcoming.
- Road work. Butte County will protect River Road at the curve 1,000 feet north of the proposed project entrance. A portion of the county road is threatened with erosion by the Sacramento River.

CHAPTER 3
ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title:	Big Chico Creek Access to Sacramento River
2. Lead Agency Name & Address:	California Department of Parks and Recreation
3. Contact Person & Phone Number:	Matt Teague Project Manager California State Parks 400 Glen Drive Oroville, CA 95966-9222 (530) 538-2212
4. Project Location:	Big Chico Creek Riparian Area Bidwell-Sacramento River State Park Butte County
5. Project Sponsor Name & Address:	California Department of Parks and Recreation Acquisition and Planning Division Northern Service Center One Capital Mall - Suite 500 Sacramento, California 95814
6. General Plan Designation:	Orchard & Field Crops (Butte County General Plan, 2003) DPR General Plan not yet adopted
7. Zoning:	Agricultural (A-5, A-40) (Butte County)

8. Description of Project: The proposed project will provide interim day-use and overnight facilities at Big Chico Creek Riparian Area in Bidwell-Sacramento River State Park (see section 2.5 for complete description). All facilities will comply with Americans with Disabilities Act (ADA) standards, and will include:

- Paved entryway to the site from River Road.
- Small unpaved parking area, including 13 passenger car spaces and two car-and-trailer spaces. One space will be ADA van accessible.
- Sloped 10' wide by 40' long ramp intended for hand carrying lightweight boating vessels (kayaks, canoes) from vehicles into the water.
- Three day use picnic sites with concrete picnic tables.
- One accessible portable chemical toilet near the day use picnic sites.
- Accessible walking/hiking trails located throughout the parcel totaling approximately one mile.
- Installation of various regulatory and interpretive signs.

9. Surrounding Land Uses & Setting:	Refer to Chapter 3 of this document (Section IX, Land Use and Planning)

10. Approval Required from Other Public Agencies
Refer to Chapter 2 of this document (Section 2.9, Discretionary Approvals)

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	☒ None

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared. ☐

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

_____ _____

Gail Sevrens Date

Environmental Coordinator

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.

4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:

   a) Identify the earlier analysis and state where it is available for review.

   b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.

   c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.

6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.

7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.

8. Explanation(s) of each issue should identify:
   a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
   b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

The Big Chico Creek Riparian Area is heavily forested in most areas with riparian forest vegetation. It is located in a rural area of Butte County, with the surrounding areas either in agricultural use or under public ownership. The subunit is quite scenic, and provides natural views of the landscape, the Sacramento River, and Big Chico and Mud Creeks. Because of the thick vegetation along the river and the relative flatness of the subunits, views from within the subunits are generally limited to the river and the riparian vegetation along it. Expansive views of the river are limited by its meandering nature. However, on clear days, foothills and mountains can be viewed from open areas of the subunit. Views of the river and the visual resources along the river may be viewed by boaters on the river and by visitors on river banks.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION

a) The day-use facilities and boat ramp will be visible from River Road and Big Chico Creek in order to increase public safety. However, the facilities will be of an appropriate and attractive design to blend with the surroundings. The facilities will improve access to scenic views. Less than significant impact.

b) None of the roadways providing direct access to the Park are designated state scenic highways. No impact.

c) See discussion a) above. Less than significant impact.

d) There is no lighting component to this project, and all construction work would take place during daylight hours. No impact.

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II. AGRICULTURAL RESOURCES.

ENVIRONMENTAL SETTING

The proposed project site is designated under the Butte County General Plan as Orchard and Field Crops. Primary land uses for this designation consist of "cultivation, harvest, storage, processing, sale and distribution of all plant crops, especially annual food crops." Secondary uses, however, include "water-related recreation facilities…environmental preservation activities, public and quasi-public uses…" (Butte County, 2005b, p. 12). Secondary uses are considered compatible with the General Plan designation.

Under the 1995 Butte County Comprehensive Zoning Ordinance, the project site is zoned Agriculture (A-5 and A-40 split zoning) (Adler, 2005). While State entities are not required to obtain local building permits, it should be noted that "Public or quasipublic uses" and "Outdoor commercial recreational facilities on sites not less than five (5) acres" are both consistent with this zoning designation, although they would require a use permit if the State were subject to such permits (Butte County, 1995, 24-90).

The project site is not subject to a Williamson Act contract (California Department of Conservation, nd.).

The Natural Resource Conservation Service has classified the project area soils as "Class II – Good cultivable land" (Butte County General Plan, 2003, Figure 13-7). Although the project site was once used for agriculture, it has not been used for this purpose since the mid-1980s. The area is not designated by the Department of Conservation as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; in 2000 and 2002 it was classified as "Other Land" (DPR, 2003, Exhibit 2-4; Department of Conservation, 2002). Please see Appendix A for a map of area designated farmland.

WOULD THE PROJECT*:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☒

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

DISCUSSION

a) The project will not convert existing farmland. The area is not designated by the Department of Conservation as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. All project elements are completely reversible. No impact.

b) The project is consistent with existing zoning secondary uses and is not subject to any Williamson Act contract. No impact.

c) The project does not involve any changes in the existing environment that could result in conversion of farmland. No impact.

III. AIR QUALITY.

ENVIRONMENTAL SETTING

Climate

The climate at the Park is categorized as Mediterranean, with hot, dry summers and cool, wet winters. The average annual temperature is 61 degrees Fahrenheit, average humidity is 37%, and average precipitation is 26.04 inches per year (Key to the City 2003). According to the Chico Chamber of Commerce, weather in the vicinity of Chico experiences an average of 219 clear days, 57 partly cloudy days, and 89 cloudy days. Summer temperatures average in the 90-100º F range, although there are some days where temperatures are in excess of 110º F. Temperatures generally fall to or below freezing during 32 days of the year. Tule fog, which can be dense at times, occurs during the winter months of November through January. Table III-1 below summarizes the climate conditions in the project area.

Table III-1: Average Climate Conditions

	Temperature				
Season	**Minimum**	**Mean**	**Maximum**	**Rain (Inches)**	**Humidity (%)***
Winter	36	45	54	5.32	59
Spring	45	58	73	1.87	35
Summer	60	78	97	0.02	18
Fall	47	61	79	1.35	31
Year	47	61	75	26.04	37

*Humidity readings were taken at 4 p.m.
Source: Key to the City 2003, as reported in California Department of Parks and Recreation, 2003

Air Quality

Air quality at the Big Chico Creek Riparian Area subunit is regulated by several jurisdictions including the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (ARB), and the Butte County Air Quality Management District (BCAQMD). The U.S. EPA has established primary and secondary National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead, which are referred to as criteria air pollutants. The primary standards protect the public health and the secondary standards protect the public welfare. The California ARB has established California Ambient Air Quality Standards (CAAQS) for these same pollutants, as well as sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particulates. In most cases the CAAQS are more stringent than the NAAQS. The BCAQMD is the agency primarily responsible for assuring that national and state ambient air quality standards are not exceeded and that air quality conditions are maintained in Butte County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Table III-2: Butte County Attainment Designations for Ambient Air Quality Standards, 2003		
Pollutant	**State**	**Federal**
Ozone	Nonattainment* (1-hour)	1-hour: nonattainment 8-hour: nonattainment
Particulate Matter – PM_{10}	Nonattainment (average 24-hour and annual average)	Attainment
Particulate Matter – $PM_{2.5}$	Nonattainment	Attainment
Carbon Monoxide	Attainment	Unclassified/attainment
Nitrogen Dioxide	Attainment	Unclassified/attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	NA
Lead	Attainment	Unclassified/attainment
Hydrogen Sulfide	Unclassified	NA
Visibility Reducing Particles	Unclassified	NA

* = 2004 Designation
Sources: BCAQMD 2005b, California ARB 2005, U.S. EPA 2005

In an attempt to achieve state ambient air quality standards and maintain the air quality, the BCAQMD, in coordination with the air districts in the Northern Sacramento Valley Air Basin, has completed the 2003 Air Quality Attainment Plan. The purpose of the plan is to achieve and maintain healthful air quality throughout the air basin. The plan evaluates the progress made in achieving previous goals and includes proposed modifications to the strategies necessary to attain the California ozone standard at the earliest practicable date.

Ambient Air Quality
An air quality monitoring site is maintained in Chico on Manzanita Avenue. Pollutants monitored include: ozone, $PM_{10,}$ $PM_{2.5,}$ carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. Some pollutants, for example ozone, are measured continuously 24 hours a day. Other pollutants are sampled periodically. Particulate matter, PM_{10}, for example, is measured over 24 hours every six days. (BCAQMD 2005b)

The primary pollutants of regional concern within the Air Basin are ozone precursors (i.e., Reactive Organic Gasses [ROG] and NO_x) and airborne particulates. Over the last five years, ozone emissions in Air Basin, including Butte County, have been trending downward. The decreases in ozone precursors are largely due to increased motor vehicle controls and reductions in evaporative emissions. On August 25, 1999, Butte County experienced peak smoke impacts due to local wildfires, ozone levels at the local monitoring station reached 0.135 parts per million (ppm), well above the federal standard of 0.12 ppm. Prior to this exceptional event, Butte County exceeded the federal 1-hour standard only once in the past 20 years (BCAQMD 2003).

In contrast to ozone, emissions of PM_{10} have increased in the Air Basin. This increase is due to growth in emissions from area-wide sources, primarily fugitive dust sources. Directly emitted

PM_{10} from mobile sources and stationary sources have remained relatively steady. The national 24-hour PM_{10} standard has not been exceeded in Butte County (BCAQMD 2003).

The closest school to the project site is Emma Wilson Elementary School, located at 1530 W. 8th Avenue in Chico, about 4-5 miles away. The nearest hospital is Enloe Medical Center, 1531 Esplanade, Chico, approximately five miles away.

WOULD THE PROJECT*:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make these determinations.

DISCUSSION

a) Work proposed by this project, and any associated emissions, would not conflict with or obstruct the implementation of any applicable air quality management plan for Butte County or the BCAQMD.

b, c) The proposed project would not emit air contaminants at a level that, by themselves, would violate any local, state, or federal ambient air quality standard, or contribute to a permanent or long-term increase in any air contaminant. Much construction will take place using hand tools. However, some construction activities would generate short-term emissions of fugitive dust (PM_{10}) and involve the use of equipment that would emit ozone precursors (i.e., reactive organic gases [ROG] and nitrogen oxides, or NOx). Increased emissions of PM_{10}, ROG, and NOx could contribute to existing non-attainment conditions and interfere with achieving the projected attainment standards. Consequently, construction emissions would be considered a potentially significant short-term adverse impact. Implementation of the following mitigation measure, in accordance with the BCAQMD guidelines, would reduce this potential impact to a less than significant level.

MITIGATION MEASURES AIR-1 FUGITIVE DUST

- **Land Clearing/Earth Moving:**
  Water shall be applied by means of a truck, hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.
  Haul vehicles transporting soil into or out of the property shall be covered.
  A water truck—or other method to keep soil moist—shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.
  On-site vehicles limited to a speed of 15 mph on unpaved roads.
  Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD shall also be visible to ensure compliance with BCAQMD Rule 200 & 205 (Nuisance and Fugitive Dust Emissions).
- **Visibly Dry Disturbed Soil Surface Areas:**
  All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emission.
- **Paved Road Track-Out:**
  Existing roads and streets adjacent to the project will be cleaned at least once per day unless conditions warrant a greater frequency.
- **Visibly Dry Disturbed Unpaved Roads:**
  All visibly dry disturbed unpaved roads surface areas of operation shall be watered to minimize dust emission.
  Unpaved roads may be graveled to reduce dust emissions.
  A water truck—or other method to keep soil moist—shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.
  On-site vehicles limited to a speed of 15 mph on unpaved roads.
  Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application discussed above.
- **Vehicles Entering/Exiting Construction Area:**
  Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.
- **Employee Vehicles:**
  Construction workers shall park in designated parking areas(s) to help reduce dust emissions.
- **Soil Piles:**
  Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required to further reduce dust emissions.

d) As noted Discussion in III(b,c) above, some of the project construction would generate dust and equipment exhaust emissions. The areas under active construction will remain closed. Bidwell-Sacramento River SP contains three other nearby subunits. Park visitors with

conditions that make them sensitive to these emissions would have the option of avoiding the area altogether or remaining in portions of the park that would be upwind or protected from blowing dust or other emissions. These conditions, in conjunction with Mitigation Measure AIR-1 above, would reduce the potential adverse impact to a less than significant level.

e) The proposed work would not result in the long-term generation of odors. Construction-related emissions might result in a short-term generation of odors, including diesel exhaust and fuel vapors. These odors might be considered objectionable by some park visitors and personnel. However, because construction activities would be short-term and odorous emissions would dissipate rapidly in the air, with increased distance from the source, and visitor exposure to these odors would be extremely limited [see (d) above], potential odor impacts would be considered less than significant.

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IV. BIOLOGICAL RESOURCES.

Environmental Setting

Plant communities within the Bidwell-Sacramento River State Park, Big Chico Creek Access proposed project area include Fremont cottonwood series, valley oak series, California annual grassland series, box elder, and blackberry scrub. The Fremont cottonwood series (Sawyer-Keeler-Wolf, 1995) is a multi-layer community dominated by Fremont cottonwood (*Populus fremontii*) in the upper tree canopy with a smaller component of box elder (*Acer negundo*) and northern California black walnut (*Juglans* varieties or hybrids). Middle canopy trees include English walnut (*Juglans regia*), Goodding's willow (*Salix gooddingii*), arroyo willow (*Salix lasiolepis*), edible fig (*Ficus carica*), and Oregon ash (*Fraxinus latifolia*). The understory in the Fremont cottonwood series consists of species such as California pipevine (*Aristolochia californica*), California manroot (*Marah fabaceus*), California wild grape (*Vitis californica*), California blackberry (*Rubus ursinus*), and Himalayan blackberry (*Rubus discolor*). The Fremont cottonwood series is also known as Great Valley Cottonwood Riparian Forest (Holland, 1986) and is considered a sensitive plant community by the California Native Plant Society (CNPS) and the California Department of Fish and Game (DFG) as noted in the California Natural Diversity Database (CNDDB, 2005).

The valley oak series (Sawyer-Keeler-Wolf, 1995) is composed predominantly of valley oak (*Quercus lobata*) in the upper tree canopy with a smaller component of arroyo willow, northern California black walnut, almond (*Prunus dulcis*), box elder, and Oregon ash. The shrub layer consists of California blackberry, Himalayan blackberry, and blue elderberry (*Sambucus mexicana*). Understory species are dominated by a mix of non-native grass and forb species. The valley oak series is also known as Great Valley Valley Oak Riparian Forest (Holland, 1986) and is considered a sensitive plant community by CNPS and DFG as noted in the California Native Diversity Database (CNDDB, 2005).

The grassland series is dominated by non-native forbs and grasses such as brome, ryegrass, oats, mustard, yellow star thistle, clover, lupine, and filaree (DPR, 2003).

The box elder plant community is characterized in the Bidwell-Sacramento River State Park General Plan and Draft Environmental Impact Report (DPR, 2003) as dominated by box elder in the upper tree canopy with a smaller component of Fremont cottonwood and Oregon ash. Other species may include California black walnut, arroyo willow, and Himalayan blackberry. Box elder is a type of riparian plant community and occurs in the floodplain. As such, it is considered sensitive by DFG because of the value of riparian plant communities to native wildlife.

The blackberry scrub plant community is characterized in the General Plan and Draft Environmental Impact Report (DPR, 2003) for the park unit as dominated by Himalayan and/or California blackberry with a minor component of species such as box elder, valley oak, California black walnut, almond, Fremont cottonwood, Goodding's willow, and arroyo willow.

Special-Status Species[1]

Queries of the California Department of Fish and Game's Natural Diversity Database (CNDDB, 2005) and the California Native Plant Society's On-line Inventory (CNPS, 2001) were conducted for sensitive biological resources that are known to occur within the Ord Ferry 7.5-minute USGS quadrangle map.

Sensitive biological resources include plants and animals that have been given special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are listed as critical for the survival of a listed species or have special value for wildlife species, and plant communities that are unique or of limited distribution and are considered sensitive. Threatened and Endangered plants and wildlife species and Species of Concern are special-status species that have legal protection.

Three special-status plant species, nine special-status wildlife species, and five sensitive plant communities are listed in the CNDDB as occurring within the Ord Ferry USGS quadrangle map. Fourteen additional special-status plant species are listed in the CNPS[2] on-line inventory as potentially occurring in the Ord Ferry quadrangle map. The results of the CNDDB and CNPS queries are combined in the table in Appendix C. In addition to these species, the U.S. Fish and Wildlife Service (USFWS) website produces a list of species to consider that may be impacted by projects within the Ord Ferry quadrangle. The USFWS list adds another 43 fish and wildlife species with the potential to be affected by the proposed project. This list is also included in the table in Appendix C. However, only species that are known to occur within Bidwell-Sacramento River State Park (CNDDB 2005, DPR 2003, and PRBO 2000, 2001, and 2002), or have the potential to occur there based upon the presence of suitable habitat, are addressed in this document.

Sensitive Species That Are Known to Occur, or Could Potentially Occur, Within the Project Area Based Upon Presence of Suitable Habitat

PLANTS

Adobe lily (*Fritillaria pluraflora*) – This is a CNPS List 1B plant species that occurs in cismontane woodland, chaparral, and valley and foothill grasslands, often in adobe substrate (DPR 2003, Hickman 1996). It blooms from February to April. The species is not known to occur within the park unit. However based upon the presence of suitable habitat, the species could possibly occur in the project area.

[1] For the purposes of this document, special-status species are defined as plants and animals that are legally protected or that are considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state or federally Threatened or Endangered, those considered as candidates for listing as Threatened or Endangered, species identified by the USFWS and/or CDFG as Species of Concern, animals identified by CDFG as Fully Protected or Protected, and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., plants on CNPS lists 1 and 2).

[2] California Native Plant Society (CNPS) Lists: List 1A = presumed extinct in California; List 1B = rare or endangered in California and elsewhere; List 2 = rare or endangered in California, more common elsewhere; List 3 = need more information; List 4 = plants of limited distribution.

Columbian watermeal (*Wolffia brasiliensis*) – This is a CNPS List 2 plant species that occurs in freshwater swamps and marshes and blooms from April to December. This species grows in colonies on the surface of shallow waters in freshwater marshes. Columbian watermeal is reported within Bidwell-Sacramento River State Park near Chico Landing (CNDDB 2005), and could potentially occur in the project area based upon the presence of suitable habitat.

Ferris's milk-vetch (*Astragalus tener* var. *ferrisiae*) – A CNPS List 1B plant species that occurs in vernally mesic meadows and seeps and subalkaline flats within valley and foothill grasslands. Blooming period is from April to May (CNDDB, 2005). The species is known from only four occurrences and is not known to occur within the park unit. However, based upon the presence of suitable habitat, the species could possibly occur in the project area.

Four-angled spikerush (*Eleocharis quadrangulata*) – This species is a CNPS List 2 plant species that occurs in freshwater marshes and swamps as well as along pond and lake margins (Hickman, 1996). It blooms from May to September. It is not known to occur within the park unit. However, based upon the presence of suitable habitat, the species has a potential to occur in the project area.

Fox sedge (*Carex vulpinoidea*) – A CNPS List 2 plant species that occurs in riparian woodlands and in freshwater swamps and marshes. It blooms May – June. There is an occurrence of fox sedge located east of the Sacramento River just north of Golden State Island and between Foster Island and the southern end of Dicus Slough (CNDDB 2005) in the general vicinity of the project area. Based upon the presence of suitable habitat, the species has a potential to occur in the project area.

Rose-mallow (*Hibiscus lasiocarpus*) – This is a CNPS List 2 plant species that occurs in freshwater swamps and marshes and blooms from June to September. Rose-mallow is known to occur in an oxbow north of Golden State Island and east of the Sacramento River (CNDDB 2005) in the general vicinity of the project area. Based upon the presence of suitable habitat, the species has a potential to occur in the project area.

Sanford's sagittaria (*Sagittaria sanfordii*) – This is a CNPS List 1B plant species that occupies shallow freshwater habitats. Sanford's sagittaria is not known to occur within Bidwell-Sacramento River State Park, but has the potential to occur in habitat at the edge of Big Chico Creek based upon the presence of suitable habitat.

INVERTEBRATES

Valley elderberry longhorn beetle (*Desmocerus californicus*) – This species is listed as Federal Threatened and is restricted to its host plant, the blue elderberry, for reproduction and survival. During a survey of the project site on September 20, 2005, one exit hole typical of the valley elderberry longhorn beetle was found in live wood of a blue elderberry. The project will be designed to avoid blue elderberry plants. Any blue elderberry plants within or adjacent to the project area will be fenced off and protected from project-related impacts during project implementation. The blue elderberry shrubs and valley elderberry longhorn beetles will not be impacted by implementation of this project.

REPTILES

Giant garter snake (*Thamnophis gigas*) – This species is listed as California Threatened and Federal Threatened. It occurs in a variety of aquatic habitats such as freshwater marsh, low-gradient streams, ponds, drainage canals, and irrigation ditches. It also requires suitable adjacent upland habitat for basking and burrows. The nearest known occurrence of the species is at the Chico Sanitation Ponds located southeast of the project area (Marr, 2005). Since suitable habitat exists in the project vicinity, there is a potential for the species to occur within the project area. If present, project construction could temporarily impact this species.

Northwestern pond turtle (*Clemmys marmorata marmorata*) – A Federal Species of Concern and a California Species of Concern that occurs in streams, ponds, freshwater marshes, and lakes where there is slow-moving water with partially submerged woody debris, rocks, or similar substrates for basking (DPR, 2003). Northwestern pond turtles require an upland site adjacent to the aquatic site for nesting, which is accomplished in dry burrows (DFG, 2005b). Although not known to occur at the site, suitable habitat for the species occurs in the project area. If present at the time of project construction, temporary impacts to the species could occur.

FISH

Central Valley steelhead (*Oncorhynchus mykiss*) – This species is listed as Federal Threatened. It is known to migrate through the project area in Big Chico Creek (DPR, 2003) to spawning grounds upstream and could be impacted by development of the small boat ramp in Big Chico Creek.

Chinook salmon – Central Valley winter run (*Oncorhynchus tshawytscha*) – This salmon run is listed as California Endangered and Federal Endangered. These fish spawn in streams where females deposit eggs in depressions in gravel spawning beds. The Sacramento River and its tributaries were designated as critical habitat for the species in 1993 (DPR, 2003). The fish are known to migrate through Big Chico Creek to spawning grounds, and therefore, may be impacted by development of the proposed small boat ramp in Big Chico Creek.

Chinook salmon – Central Valley spring run (*Oncorhynchus tshawytscha*) – This run is listed as California Threatened and Federal Threatened. This salmon run is also known to migrate through the project area in Big Chico Creek to upstream spawning grounds (DPR, 2003) and could be impacted by development of the small boat ramp in Big Chico Creek.

Chinook salmon – Central Valley fall/late fall run (*Oncorhynchus tshawytscha*) – This run is listed as a California Species of Concern and is a Federal Candidate for listing. This salmon run is also known to migrate through the project area in Big Chico Creek to upstream spawning grounds (DPR, 2003) and could be impacted by development of the small boat ramp in Big Chico Creek.

Sacramento splittail (*Pogonichthys macrolepidotus*) – This is a California Species of Concern that occurs predominantly in the San Francisco Bay Delta, but is known to migrate further north

to spawn. The Sacramento River and Big Chico Creek provide suitable habitat for this species (DPR, 2003). If this species is present at the time of project implementation, the proposed project could impact it.

BIRDS

Greater sandhill crane (*Grus canadensis tabida*) – This species is listed as California Threatened and California Fully Protected and overwinters in grasslands, irrigated pastures, and fallow fields. The species depends upon cereal grains as winter foraging habitat and typically roosts in irrigated pastures (DPR, 2003). Agricultural fields in the vicinity of the project area could provide suitable habitat for the greater sandhill crane. However, since no suitable habitat exists within the project area itself, it is unlikely that project implementation would affect this species.

Bank swallow (*Riparia riparia*) – This species is listed as California Threatened, and nests in colonies primarily in riparian habitats. The species requires vertical banks or cliffs with fine-textured sandy soils near streams, river, lakes, or ocean. Known occurrences have been reported within the general vicinity of the project area (CNDDB 2005). If this species nests within the project area, potential impacts could occur as a result of project implementation.

Great blue heron (*Ardea herodias*) and **Great egret** (*Ardea alba*) **(rookeries)** – These species are listed with the California Department of Forestry and Fire Protection as Sensitive. Both species nest in colonies in large trees located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. The CNDDB (2005) notes one rookery location for both of these species along the Sacramento River in the Ord Ferry Quad, but there are no known locations within or immediately adjacent to the State Park. This rookery is not likely to be affected by implementation of the proposed project.

Loggerhead shrike (*Lanius ludovicianus*) – This species is listed as a Federal Species of Concern and a California Species of Concern that forages in grassland and agricultural fields. It is known to nest in scattered shrubs and trees (Zeiner et al., 1990). Although the species is not known to occur within the project area or the State Park, suitable habitat does exist. If nesting within the project area, project implementation could impact this species.

Long-billed curlew (*Numenius americanus*) – This species is listed as a Federal Species of Concern and a California Species of Concern that occurs in marshes, grasslands, irrigated pastures, and fallow fields (DPR, 2003). There are no known occurrences of this species within the State Park, although suitable habitat exists. If present within the project area, the species could be impacted by project implementation.

Nuttall's woodpecker (*Picoides nuttallii*) – This is a Species of Local Concern that occurs in riparian habitats (Zeiner et al. 1990). Based upon the presence of suitable habitat in the project area, a potential exists for its occurrence there. If nesting on the site, the project could impact the species.

Osprey (nesting) (*Pandion haliaetus*) – This species is listed as a California Species of Concern and is known to nest in tree-tops within 15 miles of good fish-producing bodies of

water (CNDDB 2005). Suitable nesting habitat for this species occurs in the vicinity of the project area and a pair of osprey currently nests on top of a power pole approximately ½ mile north of the project site. As a result, osprey could be impacted by the proposed project implementation.

Swainson's hawk (nesting) (*Buteo swainsoni*) – This species is listed as California Threatened and is known to nest in riparian areas and oak savannah with adjacent suitable foraging areas such as grasslands or grain fields that support rodent populations (CNDDB 2005). The CNDDB (2005) lists several occurrences of nesting Swainson's hawks within the vicinity of Bidwell-Sacramento River State Park and one occurrence from 1998 that is within the boundaries of the State Park, just west of Big Chico Creek between River Road (formerly known as Sutter Avenue) and the Sacramento River. Implementation of the proposed project could temporarily impact this species.

Western burrowing owl (*Athene cunicularia hypugea*) – This species is listed as a Federal Species of Concern and a California Species of Concern that inhabits grasslands and agricultural areas. Suitable habitat for the burrowing owl exists within the grasslands of the project area. If present within the project area, project implementation could impact this species.

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – This species is listed as California Endangered and is a Federal Candidate for listing. Western yellow-billed cuckoo requires large patches of mature cottonwood riparian forest for nesting. While not known to currently nest within Bidwell-Sacramento River State Park, western yellow-billed cuckoo have been detected within and near the State Park (PRBO 2001 and 2002) and suitable habitat exists in the vicinity of the project area. CNDDB (2005) lists several past observations of this species within and near the State Park. Implementation of the proposed project could temporarily impact this species if found to be nesting near the project area.

Yellow-breasted chat (*Icteria virens*) – This is a California Species of Concern that was detected within Bidwell-Sacramento River State Park during surveys conducted in 2001 and 2002 by the Point Reyes Bird Observatory (PRBO 2001, 2002, and 2003). The species may be breeding within the park unit and could nest within the proposed project area. If present at the time of project implementation, nesting yellow-breasted chat could be affected by project construction.

Yellow warbler (*Dendroica petechia brewsteri*) – This is a California Species of Concern that was detected within Bidwell-Sacramento River State Park during surveys conducted in 2001 and 2002 by the Point Reyes Bird Observatory (PRBO 2001, 2002, and 2003). The species may be breeding within the park unit and could nest within the proposed project area. If present at the time of project implementation, nesting yellow warbler could be affected by project construction.

<u>MAMMALS</u>

American badger (*Taxidea taxus*) – This species is a California Species of Concern that occurs in dry, open stages of most shrub, forest, and herbaceous habitats with friable soils

(Zeiner et al., 1990). Suitable habitat occurs within the project area for this species. The young are born in burrows that are dug in relatively dry, usually sandy soil in areas with sparse overstory cover (Zeiner et al., 1990). If badger burrows are present in the project area, impacts to the species could occur during project implementation.

Long-legged myotis bat (*Myotis volans*), **Small-footed myotis bat** (*Myotis ciliolabrum*) and **Yuma myotis bat** (*Myotis yumanensis*) – These bat species are Federal Species of Concern that are known to roost under tree bark and in hollow trees and snags and may occur in the proposed project area (Miner 2005). If roosting in the project area, the species may be impacted by project implementation.

Pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*) and **Pacific western big-eared bat** (*Corynorhinus townsendii townsendii*) – These bats are Federal Species of Concern and California Species of Concern that are known to roost in large hollow oak trees and could occur within the project area (Miner 2005). If present in the project area, the species may be impacted by project implementation.

Ringtail (*Bassariscus astutus)* – This is a California Fully Protected species that inhabits mixed riparian and other forest and shrubby habitats that are in close association with permanent water and rocky areas. They nest in rock crevices, hollow trees, logs, snags, abandoned burrows, or woodrat nests. The young are typically born in May and June (DPR, 2003). Potential habitat exists within the proposed project area for this species. If nesting in the project area, this species could be affected by project implementation.

Sensitive Plant Communities

Sensitive plant communities are regionally uncommon or unique, unusually diverse, or of special concern to local, state, and federal agencies. Removal or substantial degradation of these plant communities constitutes a significant adverse impact under CEQA. The CNDDB record search produced a list of five sensitive plant communities for the Ord Ferry 7.5 minute USGS quadrangle map. Two of these sensitive plant communities are known to occur within the proposed project area. They are Great Valley Cottonwood Riparian Forest and Great Valley Valley Oak Riparian Forest, which are described earlier in this section.

Wetlands and Waters of the United States

The U.S. Army Corps of Engineers (USACOE) defines wetlands as lands that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Typically, USACOE jurisdictional wetlands meet three criteria: they have hydrophytic vegetation, hydric soils, and wetland hydrology.

Waters of U.S. are defined as all waters used in interstate or foreign commerce, waters subject to the ebb and flow of the tide, all interstate waters including interstate wetlands and all other waters such as: intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds. Waters of the U.S. are under the USACOE jurisdiction.

A site investigation for the presence of USACOE-jurisdictional wetlands was conducted within

the project area on June 7, 2005 by DPR-qualified biologists and a report of the findings has been filed with the USACOE. The findings of the wetland delineation work indicate that the proposed project site is not within a wetland. However, construction of the boat ramp would occur within USACOE Waters of the United States.

ISSUES	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

a) **Swainson's hawk and other nesting raptors.** The CNDDB (2005) lists several occurrences of nesting Swainson's hawks within the vicinity of Bidwell-Sacramento River State Park and one occurrence from 1998 that is within the boundaries of the State Park, just west of Big Chico Creek. Other raptor species may nest within the project area, as well. Raptors and their nests are protected under Fish and Game Code §3503.5. The following avoidance measures are designed to prevent the disturbance or loss of active nests and reduce project-related impacts to nesting raptors to a less than significant level.

AVOIDANCE MEASURE BIO-1 (SWAINSON'S HAWK AND OTHER NESTING RAPTORS)
• A focused survey for raptor nests will be conducted by a DPR-qualified resource ecologist during the nesting season (February 1 to August 31) to identify active nests within 500 feet of the project area. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. • If nesting raptors are found within 500 feet of the project area, no construction will occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a DPR-qualified resource ecologist), unless otherwise negotiated with the California Department of Fish and Game.

Sensitive bird species. In addition to the Swainson's hawk, potential habitat occurs within, or near, the project area for several other sensitive bird species. The following avoidance measures are designed to reduce project-related impacts to sensitive bird species to a less than significant level.

AVOIDANCE MEASURE BIO-2 (SENSITIVE BIRD SPECIES)
• If construction-related activities are scheduled to begin during the nesting season of February 1 to August 31, a survey for nesting bird species will be conducted by a DPR-qualified resource ecologist. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction to identify active nests within 250 feet of the project area. • No trees with active bird nests shall be disturbed until all eggs have hatched and young birds have fledged. If active nests are found, no construction will occur within 250 feet of the nests during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a DPR-qualified resource ecologist) or as otherwise negotiated with the California Department of Fish and Game and U.S. Fish and Wildlife Service.

Nesting bird species under Migratory Bird Treaty Act. Nests of migratory bird species could occur within the proposed project area. The following avoidance measures are designed to reduce project-related impacts to nesting migratory bird species to a less than significant level.

AVOIDANCE MEASURE BIO-3 (MIGRATORY BIRD SPECIES)

- If construction-related activities are scheduled to begin during the nesting season of April 15 to August 1, a DPR-qualified biologist will conduct a survey for nesting bird species within three days prior to commencement of construction at each site to ensure that no nesting birds will be impacted by the project. The survey area will include the project site and a 100-foot zone around it.
- If active nests are located, DPR will propose protection measures to the Department of Fish and Game for approval on a case-by-case basis, based upon species and location of the nest. If the Department of Fish and Game does not comment on the proposed protection measures within ten days from the date of submittal, DPR will assume that the measures are approved and will continue with project activities after the protection measures are in place.

Sensitive plant species. Six plant species listed with the California Native Plant Society on either List 1B or List 2 could potentially occur within the project area based upon the presence of suitable habitat. The following avoidance measures are designed to reduce project-related impacts to sensitive plant species to a less than significant level.

AVOIDANCE MEASURE BIO-4 (SENSITIVE PLANT SPECIES)

- A focused survey for sensitive plant species will be conducted throughout the project impact area by a DPR-qualified biologist. The survey will be conducted prior to project implementation and when the plants are in a phenological stage conducive to positive identification, usually during the blooming period for each species.
- If sensitive plant species are found within the project area during the surveys, the populations will be fenced off during construction and completely avoided, if at all possible. If complete avoidance of sensitive plant species is not possible, DPR will notify the Department of Fish and Game prior to the start of construction regarding appropriate mitigation for the impacts.

Valley elderberry longhorn beetle. The blue elderberry, host plant and critical habitat for the species, is present. As stated in the Environmental Setting above, one exit hole of a valley elderberry longhorn beetle was found during a survey of the project site during September 2005. The following avoidance measure, in conjunction with implementation of Mitigation Measure Geo-1 (use of Best Management Practices for erosion control), is designed to reduce project-related impacts to valley elderberry longhorn beetle to a less than significant level.

AVOIDANCE MEASURE BIO-5 (VALLEY ELDERBERRY LONGHORN BEETLE)

- The project will be designed to avoid impacts to blue elderberry shrubs.
- All blue elderberry shrubs within 100 feet of new development (e.g. road, trail, boat ramp, etc.) to be built in the project area will be fenced off with orange plastic webbed protective fencing around the driplines of the shrubs with signs denoting the area is protected habitat of the beetle. Contractors and project personnel will be trained to avoid the shrubs. These measures will protect beetle habitat so that no project-related impacts to elderberry shrubs will occur.

Giant garter snake. The nearest known occurrence of giant garter snake is at the Chico Sanitation Ponds located southeast of the project area (Marr, 2005). Potential habitat exists within the project site. The following avoidance measures are designed to reduce project-related impacts to giant garter snake, if present, to a less than significant level.

AVOIDANCE MEASURE BIO-6 (GIANT GARTER SNAKE)
• All construction activity within giant garter snake habitat will be conducted between May 1 and October 1 to coincide with the species' active period, unless otherwise approved by USFWS and DFG. More impacts occur to the snakes during their inactive period when they are unable to move away from danger and are susceptible to direct impacts. • Within 24 hours prior to the start of construction, a USFWS-qualified biologist shall inspect the project site for the presence of giant garter snakes. If a giant garter snake is found within the construction area, construction activities will cease until the animal has moved out of the construction area of its own accord. • Construction activity within giant garter snake habitat will be monitored by a USFWS-qualified biologist. • Construction personnel will be instructed by the USFWS-qualified biologist in the life history of the giant garter snake and its habitat.

Northwestern pond turtle. Although the northwestern pond turtle is not reported from within the project area, suitable habitat exists. The following avoidance measures are designed to reduce project-related impacts to northwestern pond turtle, if present, to a less than significant level.

AVOIDANCE MEASURE BIO-7 (NORTHWESTERN POND TURTLE)
• A preconstruction survey for northwestern pond turtle burrow sites will be conducted by a DPR-qualified biologist. • If northwestern pond turtle burrows are found within the project area, the burrows will be mapped and protected from project-related impacts during the nesting season of April 15 to August 15 or as negotiated with the U.S. Fish and Wildlife Service and the California Department of Fish and Game. • Within 24 hours prior to the start of construction, a USFWS-qualified biologist will inspect the project site for the presence of northwestern pond turtle. If found within the construction area, construction in that location will cease until the animal has moved out of the construction area of its own accord, or is removed from the site by a USFWS-permitted and qualified biologist. • Construction activity within northwestern pond turtle habitat will be monitored by a USFWS-qualified biologist. • Construction personnel will be instructed by the USFWS-qualified biologist in the life history of the northwestern pond turtle and its habitat.

Sensitive bat species. Five species of sensitive bats could potentially roost in trees within the project area. The following avoidance measures are designed to reduce project-related impacts to sensitive bat species, if present, to a less than significant level.

AVOIDANCE MEASURE BIO-8 (SENSITIVE BAT SPECIES)
• A preconstruction survey for sensitive bat species will be conducted by a qualified biologist. • If sensitive bat species are found within the project area, the roost trees will be mapped and protected from project-related impacts during the roosting season of May 1 – August 30, or as negotiated with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

American badger. Although not known to occur in the project area, suitable habitat exists. The following avoidance measures are designed to reduce project-related impacts to American badger, if present, to a less than significant level.

AVOIDANCE MEASURE BIO-9 (AMERICAN BADGER)
• A preconstruction survey for American badger burrows will be conducted by a DPR qualified biologist. • If badger burrows are present, they will be mapped and protected from project-related impacts during the nesting season of June 1 through October 15, or as negotiated with the California Department of Fish and Game.

Ringtail. While not known to occur in the project area, potential habitat exists for this species. The following avoidance measures are designed to reduce project-related impacts to ringtail, if present, to a less than significant level.

AVOIDANCE MEASURE BIO-10 (RINGTAIL)
• A pre-construction survey for ringtail will be conducted by a DPR-qualified biologist. • If ringtail nest sites are located within the project area, they will be mapped and protected from project-related impacts during the nesting season of April 1 through June 15, or as negotiated with the California Department of Fish and Game.

Sensitive fish species. Five species that are listed with the State and/or Federal government as Threatened, Endangered, or Species of Concern are known to occur or could occur within the project area. Impacts to Central Valley steelhead, Chinook salmon – Central Valley winter run, Chinook salmon – Central Valley spring run, Chinook salmon – Central Valley fall/late fall run, and Sacramento splittail could be impacted by the installation of the boat ramp in Big Chico Creek. The following avoidance measure is designed to reduce project-related impacts to sensitive fish species to a less than significant level.

AVOIDANCE MEASURE BIO-11 (SENSITIVE FISH SPECIES)
• To avoid impacts to listed and other sensitive fish species, timing of the boat ramp installation will occur between June 1 and October 30, or as otherwise directed by the California Department of Fish and Game and the National Marine Fisheries Service.

b) **Sensitive Plant Communities.** Impacts will occur to Great Valley Cottonwood Riparian Forest as a result of project implementation. Impacts to Great Valley Valley Oak Riparian Forest could also occur. The following mitigation measure is designed to reduce project-related impacts to a less than significant level.

MITIGATION MEASURE BIO-1 (SENSITIVE PLANT COMMUNITIES)
• Acreage of project-related impacts, if any, to Great Valley Cottonwood Riparian Forest and Great Valley Valley Oak Riparian Forest will be calculated and replaced in-kind within Bidwell-Sacramento River State Park at a ratio of 1:1 or as negotiated with the California Department of Fish and Game.

c) **Wetlands.** A site investigation for the presence of USACOE-jurisdictional wetlands was conducted within the project area on June 7, 2005 by DPR-qualified biologists. The findings of the wetland delineation work indicate that the proposed project site is not within a wetland, therefore, no impacts to USACOE-jurisdictional wetlands will occur as a result of project implementation.

d) **Migratory fish species.** Avoidance of impacts to migratory fish species are addressed above in Avoidance Measure Bio-11.

e) This project will not conflict with any local ordinances or tree protection policies. No impact.

f) This project will not conflict with any adopted or approved habitat conservation plans. No impact.

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V. CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

After operating for more than a half-century under the stewardship of the town of Chico, Bidwell-Sacramento River State Park (SP) was reacquired by the state of California and classified as a state park in 1990. The current project area is located within the southernmost portion of the park in a subunit identified as the Big Chico Creek Riparian Area (California Department of Parks and Recreation [CDPR] 2003). This area is best characterized as a low flat heavily vegetated floodplain. The Big Chico Creek Riparian Area is bounded on the north by a recently acquired property identified as the Singh Orchard, on the east by Mud and Big Chico creeks, on the south by the confluence of Big Chico Creek and the Sacramento River, and on the west by the Sacramento River itself. The proximity of Mud and Chico creeks and the Sacramento River most likely have had the greatest influence on the environmental setting of the current project area. Data compiled by EDAW for the Bidwell-Sacramento SP Preliminary General Plan (GP) depict numerous changes in the location of the Sacramento River over the last 100 years (CDPR 2003: 2-8C). A nearby segment of the Sacramento River locally known as the Washout has been actively eroding east and into park property during major floods for over 50 years. Flood waters not only eroded stream banks, but over time both deposited and displaced numerous quantities of silt and soil. At present, most all of the ground in the current project area and vicinity is obscured by a dense and intertwined growth of grasses and brush. Much of the brush ranges from four feet to nearly six feet in height, and is broken up only by multiple thickets of young valley oaks. A small number of fruit and nut trees also are found within the far eastern portion of the Big Chico Creek Riparian Area. The latter most likely are remnants of an almond orchard that was abandoned approximately 20 years ago (Brooke 2005a).

CULTURAL CONTEXT

Historic: Much Central Valley land near the Sacramento River was put into use for agriculture as early as the mid-1800s. Crop production in the first years largely concentrated on wheat. Orchards increased in frequency and by the late-1800s produce from such farms became the dominant product in this portion of the Central Valley. Transportation evolved to meet the needs of agriculture and the growing population. Railroads, river boats, river ferries, and wagon roads all were developed throughout the mid- to late-1800s. One element of river transportation, the Chico Landing, was established outside the current project area near the confluence of Big Chico Creek and the Sacramento River to accommodate the movement of people and farm produce. A portion of the current project area in the vicinity of Big Chico Creek was developed into an almond orchard that operated until the mid-1980s. With such use, it can be expected that orchard ground frequently was disturbed by plant propagation activities and other agricultural activities such as plowing and scraping of silt.

Ethnographic and Prehistoric: The current project area is located within the far western range of the ethnographic period Maidu (Riddell 1978). Also known as the Konkow and Mechoopda, these people lived in large villages that could contain as many as 200 individuals (CDPR 2003: 2-8C). Villages, in turn, were supported by small outlying encampments that were used for fishing, hunting, and gathering of plants. Riddell (1978: 371) depicts a large

number of documented village sites along the Sacramento River and within the vicinity of the current project area. In contrast, the outlying encampments contained fewer people than villages and often were dispersed across the landscape and into areas where subsistence resources were readily available. Knowledge of prehistory before the Maidu is somewhat limited due to the paucity of archaeological research in this portion of the state. Though the first humans are thought to have inhabited the region of California sometime between 8,000 and 12,000 years ago, prehistoric populations in the current project area most likely date back nearly 4,000 years and are associated with the Windmiller Pattern of Central California prehistory.

Archaeological Investigations of the Project Area

In the Cultural Resources section of the Existing Conditions and Issues chapter of the Preliminary General Plan (GP), EDAW reports that there have been nine archaeological investigations conducted on park land and immediate vicinity since the mid-1970s (see also Atcheley 2000; Department of Transportation [DOT] 1978; Hetherington 1980; Hood and McGuire 1981; Johnson 1975; Jones and Stokes 1996; Manning 1983; Minor and Underwood 1987). These investigations resulted in identifying a total of eight cultural resources within a one-mile radius of the park boundaries as they existed at the time of writing in 2003. Subsequent acquisitions of the Brayton Orchard and the above mentioned Singh Orchard resulted in California DPR acquiring one of the sites discussed by EDAW in the Preliminary GP. The site record describes the resource as a low mound and interprets it as a late period Maidu village. Additional cultural resource surveys were completed with negative results in early 2005 for the Brayton and Singh acquisitions (Brooke 2005a). A cultural resource survey of the portion of the Big Chico Creek Riparian Area east of River Road was completed in support of the current project in mid-2005. This survey was comparable to the Brayton and Singh investigations as it too resulted in identifying no cultural resources (Brooke 2005b). As the effectiveness of the survey was limited by dense vegetation, it was followed up in August 2005 by a program of archaeological testing of the construction footprint of the boat launch/river access area. The results of the testing program were comparable to previous archaeological investigations as it too resulted in identifying no cultural resources (Benson 2005).

	WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a)	Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	☐	☐	☐	☒
b)	Cause a substantial adverse change in the significance of an archaeological resource, to §15064.5?	☐	☐	☐	☒
c)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

DISCUSSION

a) The cultural resource survey of the portion of the Big Chico Creek Riparian Area east of River Road was sufficient to identify large above-ground structures. The survey was

negative as it resulted in identifying no historic resources in the current project area. The current action will have no impact on historic resources.

b) The combined results of the cultural resource survey of the portion of the Big Chico Creek Riparian Area east of River Road and subsurface archaeological testing of the boat launch/river access area construction footprint resulted in identifying no archaeological resources in the current project area. No impacts.

c) No human remains, burial sites or funerary objects have been documented or are expected to be found in the current project area. However, the possibility always exists for inadvertent finds of such remains in the course of implementing the ground disrupting elements of project work. Mitigation Measure CULT-1 below will reduce the potential for impacts from project work to a less than significant level.

d)

MITIGATION MEASURE CULT-1
• In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized State representative) will notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities. If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe will be consulted to identify the most likely descendants and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the site prior to determination. If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office (SHPO) and review by the Native American Heritage Commission/ Tribal Cultural representatives will also occur as necessary to define additional site mitigation or future restrictions.

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VI. GEOLOGY AND SOILS

Environmental Setting

Introduction

The Big Chico Creek project site (Project Site) at Bidwell-Sacramento River State Park (Park) is located in the Big Chico Creek Riparian Area subunit, just upstream from the creek's confluence with the Sacramento River. The Project Site is approximately 3.5 miles southwest of Chico, 1.5 miles south of Highway 32, and just east of River Road. The Sacramento River is located approximately 1,000 feet west of the Project Site.

Topography

Located in the northern Sacramento Valley, the elevation at the Park is fairly low, ranging between 108 and 150 feet above mean sea level (msl). Topography however varies by subunit, ranging from relatively flat land areas and gravel bars to steep, heavily vegetated river banks. Elevation tends to decrease with increasing distance from the riverbank (levee), creating low floodplain areas. The highest land elevation within the Park is a berm approximately 300 feet long, 40 feet wide, and 7 feet high located in the Big Chico Creek Riparian Area subunit (DPR, 2003). The topography at the Project Site is relatively flat, ranging from 130 feet msl near the proposed access road intersection with River Road to approximately 118 feet msl near the boat ramp area on the bank of Big Chico Creek (see Appendix A for a contour map of the site).

Geology

The Park and Project Site are located within the center of the Great Valley Geomorphic Province (GVGP), a northwest-trending, relatively flat, alluvial plain extending from the Klamath Mountains in the north to the Tehachapi Mountains in the south, the Sierra Nevada to the east, and the Coast Ranges to the west. The GVGP is an elongate structural trough that has been filled with a sequence of marine and non-marine sediments, mostly derived from the erosion of the Sierra Nevada, and some input from the Coast Ranges to the west. The trough is an asymmetric geosyncline with a short western flank and a long, stable eastern shelf supported at depth by the granitic rocks of the Sierra Nevada. The sediments are a mixture of gravel, sand, silt, and clay, up to thousands of feet thick, deposited over time when the Sacramento Valley was an inland sea. These sediments, which form the surface of the Sacramento Valley, were deposited by rivers originating in the mountains (DPR, 2003). The geologic formation underlying the Project Site is mapped as Quaternary (Holocene) stream channel deposits, associated with active stream and river systems (Helley & Harwood, 1985).

Soils

Generally, soil in the region is a deep alluvial loam, deposited over thousands of years due to river and creek meandering. Soils within the Park consist primarily of silt loams or sandy loams that are composed of river deposits (DPR, 2003). As shown in the General Plan maps, three soil series are present within the Project Site footprint: Gianella loam; Gianella fine sandy loam; and Maywood fine sandy loam.

Both the Maywood and Gianella series are very deep, well-drained soils that formed on floodplains from alluvium derived from mixed rock sources. The Gianella series formed from overbank (flood) deposits associated within meander belts, while the Maywood is found on low

stream terraces and floodplains associated with small streams (along north bank of Big Chico Creek). Both soils are well drained, have slow (to negligible in Maywood) surface runoff, moderate permeability, and are occasionally to frequently flooded (USDA, 2005).

Seismicity

There are no known active surface faults within the Park or the Project Site, which is located in an area of relatively low seismicity, with the notable exception of the 1975 Oroville Earthquake. The nearest active fault to the project area is the Cleveland Hills Fault, which runs in a north-south direction, roughly 30 miles to the southeast of the Park. This fault, part of the Foothills Fault System, resulted in the most recent significant earthquake recorded in Butte County, which occurred at Oroville in 1975 and measured 5.7 on the Richter Scale, with two aftershocks of 5.2 and 5.1 (DPR, 2003).

Several other major active fault systems outside Butte County are capable of producing earthquakes that could cause moderate to severe ground shaking within the County. These faults include the Bartlett Springs Fault, Battle Creek Fault, Midland-Sweitzer Fault, the Dunnigan Hills (Zamora) Fault, and the Green Valley Fault. Large earthquakes on the Maacama Fault, the Hayward Fault, and the San Andreas Fault could also affect the project site.

Table IV-1: Active Faults

Fault Name	Distance & Direction from Project Site	Maximum Moment Magnitude Earthquake	Age of Last Rupture	Comments
Cleveland Hill	30 miles southeast	6.5-6.7	Holocene	Source of the 1975 Oroville Earthquake
Battle Creek	45 miles north	6.5	Quaternary	
Bartlett Springs	60 miles west	7.1	Holocene	
Dunnigan Hills	60 miles south-southwest	6.5	Holocene	
Midland-Sweitzer	70 miles southwest	7.0	Quaternary –Pre-Quaternary	Possible source of 1892 Winters earthquakes of magnitude 6-6.9.
Maacama	80 miles west	7.1	Holocene to Historic	Northern extension of Rodgers Creek ?
San Andreas	115 miles west-southwest	7.6	Holocene to Historic	One of the most active faults in California
Green Valley	110 miles south-southwest	6.9	Holocene to Historic	
Hayward	125 miles southwest	6.9	Holocene to Historic	Branch of the San Andreas Fault

Data Sources: Butte County, 2005a; Jennings, 1994; Petersen, et al., 1996

Potentially active faults mapped on the Fault Activity Map of California (Jennings, 1994) could result in significant ground motion at the Project Site. Those faults within a 50 mile radius of the Project Site include: the Corning Fault, the Willows Fault, Chico Monocline, and the Cohasset Ridge Fault.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area, or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☐	☐	☒

DISCUSSION

a) The project site is located within the northern Sacramento Valley, an area relatively free of large earthquake events. The chance of the surface rupture of an earthquake fault at the project site is highly unlikely. Seismic ground shaking is possible from earthquake events on the faults discussed in the Environmental Setting section above. The Project Site may be susceptible to liquefaction, but the probability of seismic-induced landslides is low.

i) The project site is not located within an Alquist-Priolo Earthquake Fault Zone (APEFZ) as designated by the California Geological Survey (CGS). Therefore, there is no expected impact from surface rupture due to this project.

ii) The California Geological Survey has determined that the closest faults (Cleveland Hill and Battle Creek faults) are both capable of generating a Maximum Credible Earthquake of magnitude 6.5 (Petersen, 1996). Other faults listed in Table IV-1 above are also capable of affecting the Project Site. However, the expected ground acceleration at the Project Site is very low, on the order of less than 0.1g (CGS, 2003). Any damage to property or risk to the public from seismic shaking due to this project would be less than significant.

iii) Seismic-induced ground failure, such as liquefaction, usually occurs in unconsolidated granular soils that are water saturated. During seismic-induced ground shaking, pore water pressure can increase in loose soils, causing the soils to change from a solid to a liquid state (liquefaction). The site soils are relatively unconsolidated and can be water saturated due to the close proximity of Big Chico Creek and the Sacramento River. The Project Site is rated as moderate for liquefaction potential. Areas parallel to the Sacramento River that contain subsurface layers of clean, loose, saturated sand layers have high liquefaction potential (Butte County, 2005a). Damage could occur to the parking lot and entrance road, but the risk is slight; therefore there is less than significant impact due to this project.

iv) No known landslides have been mapped at the Project Site, which is located on a relatively flat alluvial terrace and floodplain with slopes usually less than 2%. Therefore, there would be no impact from a seismically triggered landslide.

b) A temporary increase in erosion may occur during the phases of this project during grading for the access road, parking lot, boat ramp, and any other ground-disturbing activities. Implementation of Mitigation Measure GEO-1 below will reduce soil erosion or loss of topsoil by the proposed project to a less than significant level.

MITIGATION MEASURE GEO-1 EROSION CONTROL
Best Management Practices (BMPs) will be used in all areas to control soil and surface water runoff during excavation and grading activities. Grading and excavation activities will not be planned during the rainy season (October 31 to May 1) unless necessary, but if storms are anticipated during construction or if construction must occur during winter months, "winterizing" will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil. Temporary erosion control measures (BMPs) must be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.). DPR-approved BMPs, such as silt fences, fiber rolls, mulch, or other applicable techniques will be utilized. Information on approved BMPs can be found in the California Stormwater Quality Association Stormwater Best Management Practice Handbook for Construction, available online at www.cabmphandbooks.com. Applicable BMPS include WM-4 (Spill Prevention Plan) and WM-8 (Concrete Washout). Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate disturbed soil areas with native species using seed collected locally, where possible. Otherwise, if local seed is not available, a weed-free native mixture shall be used. Final design plans will incorporate BMP measures to be incorporated into the project.

c) The Project Site is not located within a geologic unit or soil that is known to be unstable, based upon available data. There is a moderate potential for instability due to liquefaction or lateral spreading during an earthquake. The area is also rated as a potential subsidence area due to groundwater or gas withdrawal (Butte County, 2005a). There are no known problems due to liquefaction or subsidence to date at the Project Site or in the Park. Therefore, the impact from these hazards is less than significant.

d) The Project Site is underlain by soils with a low potential for soil expansivity (Butte County, 2005a). The Gianella and Maywood soil series are silt loams or sandy loams; expansive soils (expansive clays) are generally plastic clays. There would be no impact due to this project.

e) The project does not involve the installation of a septic system or leach field. Therefore, there will be no impact to onsite soils from this project.

f) No known unique paleontological or geological resources exist within the project site. Therefore, there is no impact.

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VII. HAZARDS AND HAZARDOUS MATERIALS.

ENVIRONMENTAL SETTING

Past Land Use

The proposed Project Site is located in Bidwell-Sacramento River State Park (Park), within the Big Chico Creek Riparian Area subunit. The riparian areas along the Sacramento River and its tributaries were first utilized by Native Americans. In the mid-1800s, with European occupation, areas near the Sacramento River were utilized for growing wheat and then orchard crops. In the 1980s, a portion of the project area in the vicinity of Big Chico Creek was planted as an almond orchard but agricultural use was abandoned due to frequent flooding.

Hazardous Materials

There has been no known industrial use or construction of buildings on the parcel that could have been a source of hazardous materials. However, the past agricultural use may be a source of hazardous materials associated with various agricultural practices. During a recent soils investigation for a wetland delineation, State Park Resource Ecologists encountered, at a depth of 5-6 inches, soils with hydrocarbon odors and some evidence of plastic debris (empty antifreeze container). The potential hydrocarbon contamination may be due to the prior use of smudge pots, which often burned a combination of diesel and used oil. The metal and plastic debris may represent sporadic surface disposal or could indicate the presence of a more extensive dump site. Additional shallow holes, 12 to 18 inches deep, were advanced in the area and no additional hydrocarbon odors were detected. Some concrete debris was encountered.

Airports

The nearest airport is Ranchaero Airport, which is approximately 3.75 miles to the northeast. It is a privately owned general aviation facility. The project site does not fall within the Airport Zone (Butte County, 2005) or any of the Compatibility Zones for Ranchaero Airport (Butte County, 2000). The Chico Municipal Airport and the Paradise Airports are located approximately 8 miles and 18 miles away, respectively.

Schools

There are no schools located within one-quarter mile of the project location. The closest school, Emma Wilson Elementary School, is located approximately 4 miles to the northeast on West Eighth Avenue in the city of Chico (Mapquest, 2005).

Fire

The Project Site is a mixture of riparian vegetation near Big Chico Creek, with oaks, residual orchard trees, blackberry shrubs, and grasses/forbs inland from the riparian zone. The areas with grasses can become dry during the summer and fall and could be a potential fire hazard.

		POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:					
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	☐	☒	☐	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?	☐	☒	☐	☐
e)	Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f)	Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h)	Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

DISCUSSION

a) Construction activities will require the use of certain potentially hazardous materials, such as fuels, oils, or other fluids associated with the operation and maintenance of vehicles and equipment. These materials are generally are contained within vessels engineered for safe storage. Large quantities of these materials will not be stored at or transported to the construction site. Spills, upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. The following mitigation would reduce the potential for adverse impacts from these incidents to a less than significant level.

Mitigation Measure Hazmat-1 – Spill Prevention
All equipment will be inspected by the contractor or DPR staff for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises. The contractor(s) and/or DPR would prepare an emergency Spill Prevention and Response Plan prior to the start of construction and maintain a spill kit on-site throughout the life of the project. This plan would include a map that delineates construction staging areas and where refueling, lubrication, and maintenance of equipment may occur. Areas designated for refueling, lubrication, and maintenance of equipment shall be at least 50 feet from Big Chico Creek or the Sacramento River. In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of the Park during construction, the contractor or DPR staff would immediately notify the appropriate DPR staff (e.g., project manager, supervisor, or State Representative). Equipment will be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside park boundaries, at a lawfully permitted or authorized destination.

b) Based on a recent soil investigation for wetland delineation purposes, several shallow soil auger holes encountered possible hydrocarbon contamination (based on odors and dark stained soil), and plastic and rusted metal debris in the subsurface at a depth of approximately 5-6 inches (see environmental setting section above). Additional shallow holes, 12 to 18 inches deep, were advanced in the area and no additional hydrocarbon odors were detected. Some concrete debris was encountered. Implementation of Mitigation Measure Hazmat-2 below would reduce any risk to on-site workers, the public, or the environment to less than significant.

Mitigation Measure Hazmat- 2 Hazardous Substances Contingency Plan
DPR will include, in any contract documents or in internal work plan documents, a Contingency Plan to handle any potential hazardous materials. The Contingency Plan/Health & Safety Plan (Plan) will include methods for safe handling, collection, and proper disposal of any contaminated soil and refuse uncovered during the excavation and grading procedures. The Plan will discuss the proper personal protection during construction, the use of an exclusion zone if necessary to prevent exposure to the public, and the proper disposal procedures for any hazardous substances encountered.

c) As noted in the Environmental Setting, there are no schools in the general vicinity of the project or within one-quarter mile of the proposed project site. Therefore, there will be no impact from this project.

d) No part of the Park is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (Cortese List). No area within the project site is currently restricted or known to have hazardous materials present. However, there is a possibility for the presence of hydrocarbon contamination and debris in the subsurface. Implementation of Mitigation Measure Hazmat-2 above will reduce any risk to on-site workers, the public, or the environment to less than significant.

e, f) The Park is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. The Ranchaero Airport, a private airstrip, is approximately 3.75 miles to the northeast. Therefore, no impact would occur as a result of this project.

g) All construction activities associated with the proposed project would occur within the boundaries of the Park and work would not restrict access to, cause delays, or block any public road outside the immediate construction area. The traffic on River Road may be impacted only for short periods of time for delivery of construction materials or construction equipment. The project would not conflict with the emergency response plans of Butte County. Therefore, the impact of this project would be less than significant.

h) The project work location for the boat ramp and parking lot is in or adjacent to the riparian area associated with Big Chico Creek. Some trails are located away from the riparian zone in a drier area with some grasses that may become flammable during the dry season (June-October).and could pose a fire hazard. Heavy equipment can get very hot with extended use; this equipment would sometimes be in close proximity to this vegetation. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. Implementation of Mitigation Measure HAZMAT-3 below would reduce the potential for adverse construction impacts from this project to a less than significant level.

Any increase in the risk of wildland fire is not expected to be substantial due to the project, provided the mitigation measure below is implemented.

MITIGATION MEASURE HAZMAT- 3 CONSTRUCTION FIRE MANAGEMENT
A fire safety plan will be developed by the contractor and/or DPR and approved by DPR prior to the start of construction. This plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and the City of Chico Fire Department. Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment. Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, or concrete to reduce the chance of fire. The contractor will also be required to have fire extinguishers on site. There is no water supply at the Park.

VIII. HYDROLOGY AND WATER QUALITY.

ENVIRONMENTAL SETTING

Watershed

Bidwell-Sacramento River State Park (Park) is located within the Sacramento River Basin, as designated by the Central Valley Regional Water Quality Control Board (CVRWQCB). The Sacramento River is a large, dynamic alluvial river that drains the northern portion of the Central Valley (DPR, 2003). The Project Site is within the lower reaches of the Big Chico Creek watershed, which originates from a series of springs northeast of Chico on the southwest flanks of Colby Mountain (BCCWA, 2004). Surface water runoff from the Park drains to Big Chico Creek or to the Sacramento River. The runoff from this project will flow predominately to Big Chico Creek.

Flooding

Flooding is a major concern at the Project Site; the Big Chico Creek Riparian Area subunit is located within the 100-year floodplain of the Sacramento River. For planning purposes, the designated 100-year floodplain defines the area having a 1% chance of being inundated in any given year. Flooding poses significant concerns related to the availability of existing facilities, new facility development, and visitor safety (DPR, 2003).

Groundwater

The water table in the Park is assumed to be shallow, based on the relatively flat topography and the proximity to Big Chico Creek and the Sacramento River. During the wet season, the water table at the Project Site is estimated to be within 10 feet of the ground surface (DPR, 2003).

Water Quality

The CVRWQCB regulates water quality in the region and provides water quality standards and management criteria as required by the Clean Water Act. These standards and criteria are presented in the Water Quality Control Plan (Basin Plan) for the Central Valley Region (CVRWQCB, 1998). The Basin Plan identifies the beneficial uses and water quality objectives for the Central Valley region. Beneficial uses for Big Chico Creek are listed below:

- Agricultural Supply (AGR) – irrigation & stock watering
- Water Contact Recreation (REC-1)
- Non-Contact Water Recreation (REC-2)
- Warm Fresh Water Habitat (WARM)
- Cold Fresh Water Habitat (COLD)
- Migration of Aquatic Organisms (MGR) –cold water
- Spawning, Reproduction and/or Early Development for Fish (SPWN) – warm and cold water
- Wildlife Habitat

Groundwater quality in the Sacramento River Hydrologic unit is generally excellent. Human-induced impairments are generally associated with individual septic systems in shallow unconfined portions of aquifers where insufficient soil depths are available to properly leach effluent (DWR, 2003). Past agricultural use can also contribute pesticide contamination. No

known impairments to groundwater quality exist at the Project Site. There is no withdrawal of groundwater planned as part of this project.

Water Supply

Currently, there is no potable water supply for this portion of the Park. This project does not include providing a water supply.

		POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:					
a)	Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	☐	☒	☐	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☒	☐	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f)	Substantially degrade water quality?	☐	☒	☐	☐
g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map?	☐	☐	☒	☐
h)	Place structures that would impede or redirect flood flows within a 100-year flood hazard area?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam?	☐	☒	☐	☐
j)	Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

DISCUSSION

a) During any grading, excavation, or other ground disturbing operations associated with the entrance road, parking lot, boat ramp and trails, a release of sediment to Big Chico Creek and the Sacramento River could occur. Other impacts to water quality could result from releases of fuels or other fluids from vehicles and equipment during the construction process. These activities could result in a violation of water quality standards and waste discharge requirements. Mitigation Measure Hydro-1 will control releases of pollutants in storm (or other) water runoff. A plan to prevent, contain, and clean up any spills (Spill Prevention and Response Plan) will be used to mitigate for any impacts to water quality.

MITIGATION MEASURE HYDRO-1 – WATER QUALITY PROTECTION
Implementation of Mitigation Measure Geo-1 will provide BMPs to control erosion and runoff during the project construction and post-construction. The project will comply with all applicable water quality standards as specified in the CVRWQCB Basin Plan. Implementation of Mitigation Measure Hazmat-1 will mitigate for impacts to water quality from possible pollutants (fuels and other vehicle fluids released from vehicles and heavy equipment during construction).

b) The Project Site currently has no supplied water. This project will not provide a water supply; therefore there will be no depletion any local aquifer and no impacts as a result of this project.

c) No existing drainages will be altered by this project. Any siltation impacts from this project will be less than significant, provided stormwater runoff is directed in a manner that does not cause erosion. Post-construction BMPs to reduce sediment-laden runoff are specified in Mitigation Measure Geo-1 and Hydro-1.

d) The drainage pattern will not be altered in a manner that would significantly increase the rate or amount of surface runoff in a manner that would result in on- or off-site flooding. The entrance road and parking area will be a partially permeable gravel surface. Implementation of Mitigation Measure Hydro-2 would reduce any impacts to less than significant.

MITIGATION MEASURE HYDRO-2 – STORMWATER RUNOFF CONTROL
The amount of increased runoff due to the new entrance road and parking lot areas will be determined. The runoff amount should be low due to the use of gravel surfaces instead of impermeable pavement. The surface water runoff will be directed to prevent any on- or off-site erosion or flooding. Runoff can be directed to the north, where it presently flows, toward the existing swale. It is not anticipated that a Storm Water Pollution Prevention Plan (SWPPP) and associated erosion control plan, as required by the State Water Resources Control Board, will be needed, unless further analysis shows that the total area of ground disturbance will exceed one acre. Erosion and stormwater runoff controls will be utilized, even if a SWPPP is not required. Implementation of Mitigation Measure Hydro-1 will mitigate for impacts from siltation and from vehicle and equipment fluid spills.

e) This project will not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, provided the new entrance road and parking lot are designed to handle any increased surface water runoff. No substantial additional sources of polluted runoff are expected from this project, provided soil erosion Best Management Practices (BMPs) are followed and a Spill Prevention and Response Plan is in place for vehicle fluid spills. Implementation of Mitigation Measure Hydro-2 above will reduce this impact to less than significant.

f) This project will not substantially degrade water quality due to soil erosion and runoff or release of vehicle or equipment fluids if BMPs are implemented, as specified in Mitigation Measures Geo-1, Hydro-1, and Hazmat-1.

g) The entire Project Site is located within the FEMA-designated 100-year floodplain. However, since this project does not place housing or any permanent structures in the 100-year floodplain, there is no impact from this project.

h) This project will not place structures that would impede or redirect flood flows within the FEMA-designated 100-year floodplain of the Sacramento River. Therefore, there is a less than significant impact from this project.

i) The project would not expose structures to an increased risk from flooding, including flooding resulting from the failure of a levee or dam. The entire Project Site is located within the FEMA-designated 100-year floodplain of the Sacramento River. In addition, failure of Shasta Dam would affect the Sacramento River as far south as Knights Landing (Sacramento County, 1993). There may be a slight increased risk of loss, injury, or death due to flooding to the public as more visitor use can be expected. Implementation of Mitigation Measure Hydro-3 below would reduce this risk to less than significant.

MITIGATION MEASURE HYDRO-3 – FLOOD PROTECTION
The planned facilities will be designed to minimize potential damage from flood events, to the extent feasible. The Park will be closed to the public during any anticipated flood event. The Park would also be evacuated in the event of a failure of the Shasta Dam.

j) The Project Site topography is relatively flat and not prone to landslides or mudflows. The project is not located in an area that would be inundated by either a seiche or a tsunami. Therefore, there is no impact due to this project.

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IX. LAND USE AND PLANNING.

ENVIRONMENTAL SETTING

The proposed project site is located in the Big Chico Creek Riparian Area subunit of Bidwell-Sacramento River State Park. The project site is located just northeast of River Road between West Sacramento Avenue and Chico River Road in Butte County. The project site is bounded on the west by the Sacramento River, on the southwest by River Road, on the southeast by Big Chico Creek, on the east by Mud Creek, and on the north by the Singh Orchard Addition. (See Appendix A for project maps.)

The Butte County General Plan designates land use for the project site as Orchard and Field Crops. Primary land uses for this designation consist of "cultivation, harvest, storage, processing, sale and distribution of all plant crops, especially annual food crops." Secondary uses, however, include "water-related recreation facilities…environmental preservation activities, public and quasi-public uses…" (Butte County, 2005b: 12). Secondary uses are considered compatible with the General Plan designation.

This project is supportive of the following Butte County General Plan specific policies and goals (Butte County, 2005b):

- Goal LU-13: To provide adequate open space for relaxation and recreation; and for the functions of maintaining air quality, defining community boundaries and identities, natural resources, and rural activities.
- Goal PF-8: To encourage variety of recreation opportunities and their continuing availability.
- Policy PF-8.1: The County should work with public agencies to designate sites for new parks and recreation facilities.
- Policy PF-8.2: The County should financially or politically assist the development of recreation facilities commonly used by people outside of cities or recreation districts.

Under the 1995 Butte County Comprehensive Zoning Ordinance, the project site is zoned Agriculture (A-5 and A-40 dual zoning) (Adler, 2005). While State entities are not required to obtain local building permits, it should be noted that "Public or quasipublic uses" and "Outdoor commercial recreational facilities on sites not less than five (5) acres" are both consistent with this zoning designation, although they would require a use permit if the State were subject to such permits (Butte County, 1995: 24-90).

Agricultural land lies to the southwest of the Big Chico Creek Riparian Area subunit, separated by public waterways (Mud Creek and Big Chico Creek). DPR operates other similar park units elsewhere in the region along the Sacramento River adjacent to or near agricultural land. Colusa-Sacramento River State Recreation Area has a small boat launch ramp, day use area, and camping. Woodson Bridge State Recreation Area offers day use and camping. No conflict with neighboring agricultural property owners has been experienced at either of these park units (Fehling, 2005).

An important planning effort is carried out through the Sacramento River Conservation Area Forum (SRCAF). Its genesis in 1986 was the State Legislature's approval of Senate Bill 1086. This law created an advisory council with a goal of preserving existing riparian habitat, reestablishing riparian vegetation and ecosystems, and protecting fisheries, guided by a voluntary management plan. Participation includes local, state, and federal government, private property owners, fishing representatives, and other stakeholders. Subsequently, the SRCAF published a handbook to guide implementation of policies, based on six principles: ecosystem management, local concerns, flood management, bank protection, voluntary participation, and information and education. DPR has signed a Memorandum of Understanding (MOU) with SRCAF to follow the group's guidelines (Sacramento River Conservation Area Forum, 2003). The proposed project has been reviewed by SRCAF's Technical Advisory Committee, which has determined the project to be consistent with the goals and guidelines of the SRCAF handbook. The project will also be reviewed by SRCAF's board.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION

a) The project will not divide any communities. No impact.

b) The project does not conflict with any applicable land use plan or policy, including SRCAF, or any regulation of any agency with jurisdiction over the project. No impact.

c) There is no applicable habitat conservation plan or natural community conservation plan. The project conforms to the principles of the "Sacramento River Conservation Area Handbook." No impact.

X. MINERAL RESOURCES.

ENVIRONMENTAL SETTING

The only identifiable mineral resources within or adjacent to the Park are the gravel bars created by the meanders of the Sacramento River. There are no known mineral deposits located within the study area of sufficient grade to be of commercial value. (DPR, 2003) Mineral resource extraction is not permitted under the Resource Management Policy of the Department of Parks and Recreation.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

DISCUSSION

a) The project would not result in the loss of availability of a known mineral resource because no known mineral resources exist within the project boundary.

b) The project would not result in the loss of availability of a locally important mineral resource because no known mineral resources exist within the project boundary.

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XI. NOISE.

ENVIRONMENTAL SETTING

Noise is generally defined as sound that is loud, unpleasant, unexpected, or disagreeable. Federal, state, and local governments have established noise standards and guidelines to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise. The federal government regulates noise levels in the work place, near aircraft, and for certain products. The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land use compatibility criteria. Local communities generally regulate land use/noise level compatibility by establishing allowable noise levels on private property and levels associated with the use of certain types of sources.

The intensity of environmental noise fluctuates over time, and several descriptors of time averaged noise levels are used. The three most commonly used descriptors are L_{eq}, $L_{dn,}$ and CNEL. The energy equivalent noise level, $L_{eq,}$ is a measure of the average energy content (intensity) of noise over any given period. Many communities use 24-hour descriptors of noise levels to regulate noise. The day-night average noise level, $L_{dn,}$ is the 24-hour average of the noise intensity, with a 10 A-weighted decibels (dBA) "penalty" added for nighttime noise (10 p.m. to 7 a.m.) to account for the greater sensitivity to noise during this period. CNEL, the community equivalent noise level, is similar to L_{dn} but includes an additional 5-dBA penalty for evening noise (7 p.m. to 10 p.m.). Regarding increases in noise levels, knowledge of the following relationships will be helpful in understanding this report (EPA 1971):

- Except in carefully controlled laboratory experiments, a change of 1 decibel (dB) cannot be perceived by humans.
- Outside of a laboratory, a 3-dB change is considered just perceivable.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- A 10-dB change is subjectively heard as approximately a doubling in loudness and would almost certainly cause an adverse change in community response.

Noise can be generated by a number of sources, including mobile sources, such as boats, automobiles, and trucks, and stationary sources, such as construction sites and parking lots. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3.0 to 4.5 dB per doubling of distance; whereas stationary source noise typically attenuates at a rate of approximately 6 dB per doubling of distance. The rate generally depends on the atmospheric conditions, types of ground surface, as well as the number or type of objects located between the noise source and the receiver.

The Park subunit is located in a rural setting and is known for its serene and generally quiet nature. Typical noises heard at the proposed project site include birds, wind in the trees, and occasional vehicular traffic along River Road and in the existing parking areas serving the southern portion of the subunit. In addition, there are intermittent noises associated with recreation activities, namely engine noise from motorcraft, and from nearby agricultural operations. (DPR, 2003: 2-77 to 2-78).

The nearest airport is Ranchaero Airport, approximately 3.75 miles away, a privately owned general aviation facility. The project site does not fall within the Airport Zone (Butte County, GISD, 2005) or any of the Compatibility Zones (Butte County, DDS, 2000) designated by Butte County.

The Butte County General Plan Policy Document Recodification, draft released for public review in March 2005 (Butte County, 2005b) provides standards for exterior noise levels. For non-transportation noise sources, such as this project, the daytime (7 a.m. to 10 p.m.) noise level standard is 55 dB hourly $L_{eq.}$ (The nighttime standard is 45 dB.) The Plan lists some "fixed noise sources which are typically of concern," and these sources include heavy equipment and gas or diesel motors (Butte County, 2005b: 112).

Project construction is anticipated to use the following equipment and vehicles:

Table XI-1: Projected Construction Equipment Use

Type of Equipment	No. of Expected Days of Use
Backhoe	1
Grader	1
Chainsaw	1
Trail tractor	4
Grader and roller - gravel	15
Grader and roller - asphalt	1
Gravel delivery truck	3 (approx. 5 trips per day)

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☒	☐
b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels?	☐	☐	☒	☐
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	☐	☐	☒	☐
d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project?	☐	☐	☒	☐
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION

a) As noted in the Environmental Setting section above, for non-transportation noise sources, such as this project, the County's daytime (7 a.m. to 10 p.m.) noise level standard is 55 dB hourly L_{eq}.

Construction noise levels will fluctuate, depending on the type and number of construction equipment operating at any given time, and would exceed ambient noise levels in the immediate vicinity of the work for brief periods of time. Construction activities would generally be limited to between 7 a.m. and 5 p.m., Monday - Friday.

Internal combustion engines used for any purpose at the job site would be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction would utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.

Depending on the specific construction activities being performed, short-term increases in ambient noise levels could result in speech interference at the work site and a potential increase in annoyance to visitors using the nearby day use area.

Use of day use areas is a discretionary act, with park users free to seek out other nearby recreational areas. The project construction generally will not take place on weekends, when visitation would be highest. The other nearby subunits in the Park, which would not be affected by the noise, have day use areas that could be used by noise-averse visitors and that offer a similar experience to the project site.

The day use areas of the park are open from sunrise to sunset; these hours will not change when the project becomes operational.

There is a residence located on a nearby farm at some distance from the day use area. However, the day use area and the residence are separated by thick trees and other dense riparian vegetation, as well as an elevated levy. Signs will be posted with 24-hour emergency dispatch telephone numbers. Complaints of illegal activities or excess noise may be submitted by calling the dispatch number.

Less than significant impact.

b) Construction activity would not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration immediately adjacent to some construction activities would only be generated on a short-term basis. Therefore, ground borne vibration or noise generated by the project would have a less than significant impact.

c) Once the proposed project is completed, all related construction noise would disappear. Nothing within the scope of the proposed project would result in a substantial permanent increase in ambient noise levels. Slight increases in ambient

noise could result from increased visitation, but these are not anticipated to be substantial. The boat ramp is designed for lightweight boating vessels (kayaks, canoes), which would generate minimal noise. Therefore, less than significant impact.

d) See Discussion XI a) and c) above. Less than significant impact.

e,f) This project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. No impact.

XII. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

The Park primarily serves visitors from the City of Chico, located six miles west of the Park. However, it also represents a regional destination for particular user groups, most notably anglers that use the Park as an access point to the Sacramento River during peak fishing seasons. Based on the characteristics of the Park, it is surmised that the primary visitor base comes from the four nearest counties (i.e., Butte, Glenn, Colusa, and Tehama counties). The population of this four-county area is projected to grow by roughly 2 percent to 4 percent annually through 2020 (DOF, 2001).

There are no features of the proposed project that would directly induce regional population growth. However, additional recreational facilities proposed under the project could result in a slight additional visitation to the area, thereby potentially resulting in a very limited indirect increase in the employment base of the local area, primarily in Chico. In 2000 the unemployment rate in Glenn County was 11.9% and 7.0% in Butte County, and the housing vacancy rate in Glenn County was 8.1% and 6.9% in Butte County (DOF, 2002). (DPR, 2003: 4-5)

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a) Given the unemployment and housing vacancy data for the area presented in the Environmental Setting above, it is expected that any indirect increase in the demand for labor caused by additional visitors to the Park would be met by the existing local population. Therefore, no increase in population or the need for additional housing is expected and no significant effects to population and housing would occur.

b) The project would not displace any housing. No impact.

c) The project would not displace any people. No impact.

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XIII. PUBLIC SERVICES.

ENVIRONMENTAL SETTING

The California Department of Forestry and Fire Protection (CDF) administers fire prevention and suppression services in Butte County under a contract with the Butte County Fire Department. The City of Chico also provides fire protection services. The City of Chico and CDF have a mutual aid agreement for response to calls in the Chico/Butte County area, and will dispatch whichever station is closest and in station at the time of the call.

The closest fire station to the unit is City of Chico fire station #6, located at 2544 SR 32 in west Chico, and is expected to be the first to respond for fire protection to the Park. Station #43 of the CDF Butte County Unit is located at 13871 Highway 99, just north of Chico. Three other fire stations are within an 8-10 minute response time to the Park (CDF Station #42 and 44, and City of Chico Station #1). (McGaugh, 2005)

CDF also operates the Chico Air Attack Base at the Chico Municipal Airport during summer months. Firefighting aircraft such as air tankers and the command and control aircraft respond from the Air Attack Base. The project site and areas surrounding it have been designated with a fuel hazard ranking of “moderate”. (California Department of Forestry and Fire Protection Butte Unit, 2002.)

State Park rangers patrol the Park and provide law enforcement. Signs will be posted with 24-hour emergency dispatch numbers. (Fehling, 2005)

The Butte County Sheriff Department provides concurrent law enforcement services. The Sheriff’s Department maintains a sub-station at 479 East Park Avenue in Chico. Also, with concurrent jurisdiction, the California Highway Patrol (CHP) handles traffic enforcement, collisions, DUI, abandoned vehicles, stolen vehicle recovery, and similar issues on River Road, Chico River Road, West Sacramento Ave., SR 32, and the general area. The CHP Chico Headquarters is located at 995 Fir St. in Chico. CHP handles emergency dispatching for both Butte and Glenn counties. (McGaugh, 2005)

The closest school to the project site is Emma Wilson Elementary School, located at 1530 W. 8th Avenue in Chico, about 4-5 miles away.

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	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	☐	☐	☒	☐
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

DISCUSSION

a) Limited increased visitation to the subunit could result from the new facilities provided by the project, leading to a slight increase in the need for public safety services such as fire protection and police protection. However, some of the new visitation might simply be visitors who would have instead visited another subunit in the park. Further, project improvements will provide increased access for emergency vehicles.

There will be no impacts to schools, other parks, or other public facilities, as there will not be any increased population. Less than significant impact.

XIV. RECREATION.

ENVIRONMENTAL SETTING

Bidwell-Sacramento River State Park comprises four subunits, including Big Chico Creek Riparian Area, location of the proposed project site. Each subunit offers recreational opportunities, including picnicking, motorized and nonmotorized boat launch facilities, trails, nature viewing, interpretation, and bank fishing. A summary of these facilities may be found in the table below. However, the portion of the subunit northeast of River Road currently lacks any recreation facilities; all recreation facilities in the subunit are located southwest and west of River Road.

Table XIV-1
Bidwell-Sacramento River State Park
Park-Wide Recreational Facilities and Activities

Subunit	Approx. Size (acres)	Existing Recreational Facilities & Activities
Irvine Finch River Access	5.2	• Developed recreation (boat launch that facilitates motor-boating, kayaking, canoeing, tubing, and fishing; picnicking; and en-route camping)
Pine Creek Landing	4.8	• Developed recreation (boat launch that facilitates motor-boating, kayaking, canoeing and fishing, and picnicking); • Dispersed recreation (nature viewing); • Interpretation (interpretive panel)
Indian Fishery	100.9	• Developed recreation (picnicking); • Dispersed recreation (trail use, nature viewing, hiking, and bank fishing); • Interpretation and Education (trail with interpretive/educational stations, local school group visits)
Big Chico Creek Riparian Area (Project Site)	96.7	• Dispersed recreation (bank fishing, trail use, nature viewing, sunbathing, and small boat take-out); • Conservation/restoration

Source: Department of Parks and Recreation (DPR) 2003, EDAW 2003, as published in DPR, 2003

In addition to the four subunits of Bidwell-Sacramento River SP, other recreation opportunities exist in the area. The Chico Area Recreation and Park District provides facilities in Chico and the surrounding area, including regional parks (such as Bidwell Park, one of the largest city parks in the country), community parks, and neighborhood parks. The Sacramento River National Wildlife Refuge, Llano Seco Unit, is less than ten miles from the project site and provides restrooms, a short hiking trail, two multi-level viewing platforms, and an interpretive kiosk.

There are also several nearby areas under public ownership that currently provide little or no public access, but that might in the future. These include the Capay Unit of the Sacramento River National Wildlife Refuge, located directly across the Sacramento River from the project site (no public access at this time); Murphy's Slough/Golden State Island, south of the project site and owned by the Reclamation Board (public access via the Sacramento River only); and the Dead Man's Reach Unit of the Sacramento River

National Wildlife Refuge, located south of Murphy's Slough (no public access at this time).

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☒	☐	☐

DISCUSSION

a) Because the proposed project would provide additional recreational opportunities, it would not increase the use of other existing recreation facilities that could potentially result in physical degradation of those facilities, nor would it necessitate the construction of new facilities outside the Park. Therefore, no significant impact.

b) The proposed project involves the construction of recreation facilities, including a boat ramp, day use area, and trails. The improvements are designed to accommodate the expected levels of use and would not significantly impact park resources. The proposed improvements would be sited and designed in a manner that would not result in permanent adverse physical effects on the environment. The project does not propose any improvements that would interfere with existing recreation. Full implementation of the mitigation and avoidance measures proposed as part of this document would reduce any potential impacts to a less than significant level.

XV. TRANSPORATION/TRAFFIC.

ENVIRONMENTAL SETTING

River Road is a two-lane rural collector road, maintained by Butte County, which connects Chico River Road to the south with State Route 32 in the north. River Road can also be accessed via West Sacramento Avenue. State Route 32 serves as a regional highway in the County, and runs east-west between Orland (located on Interstate 5) and Chico (located on State Route 99). West Sacramento Avenue and Chico River Road are classified under the Butte County General Plan as "regionally significant arterial and collector roadways serving the unincorporated county area." (Butte County, 2005a: Ch. 5, p. 7)

At the project site, River Road has narrow dirt shoulders and appears to carry mostly local, infrequent traffic. No traffic counts are available for River Road. However, roadway conditions may be inferred by accident rates. Based on data provided by the California Highway Patrol (CHP), there were 76 accidents on River Road during the two-year period of 1988 to 1990, making it the sixth most accident-prone street in Butte County (Butte County, 1996); these accidents are commonly attributed to fog in the region. The intersection of River Road and West Sacramento Avenue, adjacent to the Park but north of the project site, is the fourth most-accident-prone intersection in Butte County during the two-year period. The intersection of River Road and Chico River Road, to the southeast of the project, is the eighth most accident-prone intersection in Butte County. However, the majority of the accidents were single-vehicle accidents, indicating that River Road may be due for roadway safety improvements (Butte County 1996). Due to its close proximity to the Sacramento River, portions of the roadway, particularly near the Big Chico Creek Riparian Area subunit, are submerged during flood events. Bank erosion is another maintenance problem associated with this roadway, with roadway realignment a potential solution.

West Sacramento Avenue is a two-lane arterial road maintained by Butte County that connects the City of Chico to the Park. West Sacramento Avenue intersects River Road at a point north of the proposed project site. The AADT volume was 540 (LOS A) on the segment of this roadway adjacent to the Indian Fishery subunit, indicating little to no congestion (Caltrans 1997, 2003). Chico River Road, a two-lane arterial road maintained by Butte County, does not provide direct access to the Park, but it is one of the three primary roadways that provide access to River Road from Chico. On the roadway segment east of River Road, the AADT volume was 970 (LOS A) (Caltrans 1997, 2003). (DPR, 2003: 2-21)

There are currently no parking facilities on the east side of the Big Chico Creek Riparian Area. A gravel day-use parking lot is located in the southern portion of the subunit. This project will create 15 new parking spaces, including one van space consistent with Americans with Disabilities Act guidelines. This is anticipated to meet demand. The project will also allow school or charter buses to enter and exit the parking area.

Butte County Transit provides fixed-route public transportation services within the County. However, there are no Butte County Transit routes near the project site (Butte County Association of Governments, 2005b). Adjacent Glenn County operates Glenn Ride, with fixed route services from Willows to Chico that includes service to Hamilton City, located about 5 miles by road from the project site (Glenn County, 2005).The Butte

County Association of Governments Bike Maps website provides a list of rural bike rides in Butte County that includes a 20-mile "River Road Loop" that departs Chico and passes the project site (Butte County Association of Governments, 2005a).

Chico is served by Amtrak services and Greyhound bus services, but there are no stops near the project site. Dial-A-Ride and Paratransit systems do operate within the County. However, eligibility for these systems is limited to disabled or senior citizens. (Butte County Association of Governments, 2005d)

Project construction is anticipated to use the following equipment and vehicles:

Table XI-1: Projected Construction Equipment Use	
Type of Equipment	**No. of Expected Days of Use**
Backhoe	1
Grader	1
Chainsaw	1
Trail tractor	4
Grader and roller - gravel	15
Grader and roller - asphalt	1
Gravel delivery truck	3 (approx. 5 trips per day)

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Cause a substantial increase in traffic, in relation to existing traffic and the capacity of the street system (i.e., a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Cause a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d) Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

DISCUSSION

a, b) As shown in the table in the Environmental Setting section above, this project will utilize only a small number of vehicles during project construction, resulting in a very small increase in number of vehicle trips, which will not impact levels of service. While the project is anticipated to bring some new visitors to the subunit, the project will provide 13 new parking spaces, which is expected to meet demand. Operational traffic impacts will be negligible and not affect levels of service. Less than significant impact.

c) The project would not change any air traffic patterns. No impact.

d) The project would not contain any design features or incompatible uses that would increase hazards. No impact.

e) The project will not decrease emergency access. It would increase emergency access to the property by installing a paved entryway and improving an existing dirt road on the parcel. No impact.

f) The project includes a sufficient amount of parking to meet anticipated demand. No impact.

g) The project would not conflict with any adopted policies, plans, or programs involving alternative transportation. No impact.

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XVI. UTILITIES AND SERVICE SYSTEMS.

ENVIRONMENTAL SETTING

There are no water supply facilities or wastewater treatment facilities at the project site. The project will not entail any such facilities. Wastewater generated at the proposed portable toilets will be collected in holding tanks and disposed of at offsite locations.

An existing power line is located at the project area. However this project will not utilize electricity. Solid waste generated by park visitors will be trucked from the park and disposed of at an approved offsite location. There are no telephone services at the proposed project site.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	☐	☐	☐	☒
Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities?	☐	☐	☐	☒
Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations as they relate to solid waste?	☐	☐	☐	☒

DISCUSSION

a, b) There are no wastewater treatment components to the project. Wastewater generated at the proposed portable toilets will be collected in holding tanks and disposed of at offsite locations. No impact.

c) The project will not require the construction or expansion of storm water drainage facilities. No impact.

d) There are no water supply components to the project. No impact.

e) There are no wastewater treatment components to the project. Wastewater generated at the proposed portable toilets will be collected in holding tanks and disposed of at offsite locations. No impact.

f) The proposed facilities are anticipated to increase visitation to the project area and the need for solid waste disposal. However, this increase would be comparatively minor. Less than significant impact.

g) The project will comply with all applicable statutes and regulations relating to solid waste. No impact.

CHAPTER 4
MANDATORY FINDINGS OF SIGNIFICANCE

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?	☐	☒	☐	☐
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	☐	☐	☐	☒
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	☐	☒	☐	☐

DISCUSSION

a) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and animal communities. The project site may support certain special status plants. It has been determined that the project would have the potential to reduce the number or restrict the range of rare or endangered animals (Swainson's hawk and other raptors, migratory birds, valley elderberry longhorn beetle, giant garter snake, northwestern pond turtle, American badger, ringtail, sensitive fish species) as well as impact Great Valley Cottonwood Riparian Forest and Great Valley Valley Oak Riparian Forest plant communities. However, full implementation of all avoidance and mitigation measures incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.

b) The proposed project was evaluated for potential significant adverse impacts to the cultural resources of Big Chico Creek Riparian Area and its immediate environs. It has been determined that activities associated with the proposed project would have the potential to cause a significant adverse impact on archaeological resources during earth-disturbing project activities. However, full implementation of all mitigation measures incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.

c) DPR often has other maintenance programs and rehabilitation projects planned, ongoing, or recently completed in the same vicinity as a proposed project. For Bidwell-Sacramento River SP, these include the General Plan and potential road work. A Preliminary General Plan/Draft Environmental Impact Report for the Park was filed with State Clearinghouse in December, 2003 (State Clearinghouse #2003022113). That plan has not yet been finalized or adopted. Butte County will protect River Road at the curve 1,000 feet north of the proposed project entrance. A portion of the county road is threatened with erosion by the Sacramento River. Impacts from these projects, along with other environmental issues addressed in this evaluation, would not overlap in such a way as to result in cumulative impacts that are greater than the sum of its parts. Full implementation of all avoidance and mitigation measures incorporated into this project would reduce all impacts to a less than significant level.

d) Most project-related environmental effects have been determined to pose a less than significant impact on humans. However, possible impacts from construction emissions (Air Quality), construction accidents and fire and hazardous materials (Hazards and Hazardous Wastes), unstable soils (Geology and Soils), and flooding (Hydrology and Water Quality) have the potential to result in significant adverse effects on humans, although many of these would be temporary. These potentially significant adverse impacts would be reduced to a less than significant level if all mitigation measures incorporated into this project are fully implemented.

CHAPTER 5
SUMMARY OF MITIGATION AND AVOIDANCE MEASURES

The following mitigation and avoidance measures would be implemented by DPR as part of the Big Chico Creek Access to Sacramento River Project.

AIR QUALITY

Mitigation Measure Air-1 Fugitive Dust

Land Clearing/Earth Moving:

Water shall be applied by means of a truck, hoses and/or sprinklers as needed prior to any land clearing or earth movement to minimize dust emission.

Haul vehicles transporting soil into or out of the property shall be covered.

A water truck—or other method to keep soil moist—shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.

On-site vehicles limited to a speed of 15 mph on unpaved roads.

Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD shall also be visible to ensure compliance with BCAQMD Rule 200 & 205 (Nuisance and Fugitive Dust Emissions).

Visibly Dry Disturbed Soil Surface Areas:

All visibly dry disturbed soil surface areas of operation shall be watered to minimize dust emission.

Paved Road Track-Out:

Existing roads and streets adjacent to the project will be cleaned at least once per day unless conditions warrant a greater frequency.

Visibly Dry Disturbed Unpaved Roads:

All visibly dry disturbed unpaved roads surface areas of operation shall be watered to minimize dust emission.

Unpaved roads may be graveled to reduce dust emissions.

A water truck—or other method to keep soil moist—shall be on site at all times. Water shall be applied to disturbed areas a minimum of 2 times per day or more as necessary.

On-site vehicles limited to a speed of 15 mph on unpaved roads.

Haul roads shall be sprayed down at the end of the work shift to form a thin crust. This application of water shall be in addition to the minimum rate of application.

Vehicles Entering/Exiting Construction Area:

Vehicles entering or exiting construction area shall travel at a speed which minimizes dust emissions.

Employee Vehicles:

Construction workers shall park in designated parking areas(s) to help reduce dust emissions.

Soil Piles:

Soil pile surfaces shall be moistened if dust is being emitted from the pile(s). Adequately secured tarps, plastic or other material may be required to further reduce dust emissions.

BIOLOGICAL RESOURCES

AVOIDANCE MEASURE BIO-1 (SWAINSON'S HAWK AND OTHER NESTING RAPTORS)

A focused survey for raptor nests will be conducted by a DPR-qualified resource ecologist during the nesting season (February 1 to August 31) to identify active nests within 500 feet of the project area. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction.

If nesting raptors are found within 500 feet of the project area, no construction will occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a DPR-qualified resource ecologist), unless otherwise negotiated with the California Department of Fish and Game.

AVOIDANCE MEASURE BIO-2 (SENSITIVE BIRD SPECIES)

If construction-related activities are scheduled to begin during the nesting season of February 1 to August 31, a survey for nesting bird species will be conducted by a DPR-qualified resource ecologist. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction to identify active nests within 250 feet of the project area.

No trees with active bird nests shall be disturbed until all eggs have hatched and young birds have fledged. If active nests are found, no construction will occur within 250 feet of the nests during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a DPR-qualified resource ecologist) or as otherwise negotiated with the California Department of Fish and Game and U.S. Fish and Wildlife Service.

AVOIDANCE MEASURE BIO-3 (MIGRATORY BIRD SPECIES)

If construction-related activities are scheduled to begin during the nesting season of April 15 to August 1, a DPR-qualified biologist will conduct a survey for nesting bird species within three days prior to commencement of construction at each site to ensure that no nesting birds will be impacted by the project. The survey area will include the project site and a 100-foot zone around it.

If active nests are located, DPR will propose protection measures to the Department of Fish and Game for approval on a case-by-case basis, based upon species and location of the nest. If the Department of Fish and Game does not comment on the proposed protection measures within ten days from the date of submittal, DPR will assume that the measures are approved and will continue with project activities after the protection measures are in place.

AVOIDANCE MEASURE BIO-4 (SENSITIVE PLANT SPECIES)

A focused survey for sensitive plant species will be conducted throughout the project impact area by a DPR-qualified biologist. The survey will be conducted prior to project implementation and when the plants are in a phenological stage conducive to positive identification, usually during the blooming period for each species.

If sensitive plant species are found within the project area during the surveys, the populations will be fenced off during construction and completely avoided, if at all possible. If complete avoidance of sensitive plant species is not possible, DPR will notify the Department of Fish and Game prior to the start of construction regarding appropriate mitigation for the impacts.

AVOIDANCE MEASURE BIO-5 (VALLEY ELDERBERRY LONGHORN BEETLE)
The project will be designed to avoid impacts to blue elderberry shrubs.
All blue elderberry shrubs within 100 feet of new development (e.g. road, trail, boat ramp, etc.) to be built in the project area will be fenced off with orange plastic webbed protective fencing around the driplines of the shrubs with signs denoting the area is protected habitat of the beetle. Contractors and project personnel will be trained to avoid the shrubs. These measures will protect beetle habitat so that no project-related impacts to elderberry shrubs will occur.

AVOIDANCE MEASURE BIO-6 (GIANT GARTER SNAKE)
All construction activity within giant garter snake habitat will be conducted between May 1 and October 1 to coincide with the species' active period, unless otherwise approved by USFWS and DFG. More impacts occur to the snakes during their inactive period when they are unable to move away from danger and are susceptible to direct impacts.
Within 24 hours prior to the start of construction, a USFWS-qualified biologist shall inspect the project site for the presence of giant garter snakes. If a giant garter snake is found within the construction area, construction activities will cease until the animal has moved out of the construction area of its own accord.
Construction activity within giant garter snake habitat will be monitored by a USFWS-qualified biologist.
Construction personnel will be instructed by the USFWS-qualified biologist in the life history of the giant garter snake and its habitat.

AVOIDANCE MEASURE BIO-7 (NORTHWESTERN POND TURTLE)
A preconstruction survey for northwestern pond turtle burrow sites will be conducted by a DPR-qualified biologist.
If northwestern pond turtle burrows are found within the project area, the burrows will be mapped and protected from project-related impacts during the nesting season of April 15 to August 15 or as negotiated with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.
Within 24 hours prior to the start of construction, a USFWS-qualified biologist will inspect the project site for the presence of northwestern pond turtle. If found within the construction area, construction in that location will cease until the animal has moved out of the construction area of its own accord, or is removed from the site by a USFWS-permitted and qualified biologist.
Construction activity within northwestern pond turtle habitat will be monitored by a USFWS-qualified biologist.
Construction personnel will be instructed by the USFWS-qualified biologist in the life history of the northwestern pond turtle and its habitat.

AVOIDANCE MEASURE BIO-8 (SENSITIVE BAT SPECIES)
A preconstruction survey for sensitive bat species will be conducted by a qualified biologist.
If sensitive bat species are found within the project area, the roost trees will be mapped and protected from project-related impacts during the roosting season of May 1 – August 30, or as negotiated with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

AVOIDANCE MEASURE BIO-9 (AMERICAN BADGER)
A preconstruction survey for American badger burrows will be conducted by a DPR qualified biologist.
If badger burrows are present, they will be mapped and protected from project-related impacts during the nesting season of June 1 through October 15, or as negotiated with the California Department of Fish and Game.

AVOIDANCE MEASURE BIO-10 (RINGTAIL)
A pre-construction survey for ringtail will be conducted by a DPR-qualified biologist.
If ringtail nest sites are located within the project area, they will be mapped and protected from project-related impacts during the nesting season of April 1 through June 15, or as negotiated with the California Department of Fish and Game.

AVOIDANCE MEASURE BIO-11 (SENSITIVE FISH SPECIES)
To avoid impacts to listed and other sensitive fish species, timing of the boat ramp installation will occur between June 1 and October 30, or as otherwise directed by the California Department of Fish and Game and the National Marine Fisheries Service.

Mitigation Measure Bio-1 (Sensitive Plant Communities)
Acreage of project-related impacts, if any, to Great Valley Cottonwood Riparian Forest and Great Valley Valley Oak Riparian Forest will be calculated and replaced in-kind within Bidwell-Sacramento River State Park at a ratio of 1:1 or as negotiated with the California Department of Fish and Game.

CULTURAL RESOURCES

Mitigation Measure Cult-1
In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized State representative) will notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor is on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities. If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe will be consulted to identify the most likely descendants and appropriate disposition of the remains. Work will not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed from the site prior to determination. If it is determined the find indicates a sacred or religious site, the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office (SHPO) and review by the Native American Heritage Commission/ Tribal Cultural representatives will also occur as necessary to define additional site mitigation or future restrictions.

GEOLOGY AND SOILS

Mitigation Measure Geo-1 Erosion Control

Best Management Practices (BMPs) will be used in all areas to control soil and surface water runoff during excavation and grading activities. Grading and excavation activities will not be planned during the rainy season (October 31 to May 1) unless necessary, but if storms are anticipated during construction or if construction must occur during winter months, "winterizing" will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil. Temporary erosion control measures (BMPs) must be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, re-vegetated, etc.). DPR-approved BMPs, such as silt fences, fiber rolls, mulch, or other applicable techniques will be utilized. Information on approved BMPs can be found in the California Stormwater Quality Association Stormwater Best Management Practice Handbook for Construction, available online at www.cabmphandbooks.com. Applicable BMPS include WM-4 (Spill Prevention Plan) and WM-8 (Concrete Washout).

Permanent BMPs for erosion control will consist of properly compacting disturbed areas and revegetation of appropriate disturbed soil areas with native species using seed collected locally, where possible. Otherwise, if local seed is not available, a weed-free native mixture shall be used. Final design plans will incorporate BMP measures to be incorporated into the project.

HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure Hazmat-1 – Spill Prevention

All equipment will be inspected by the contractor or DPR staff for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises.

The contractor(s) and/or DPR would prepare an emergency Spill Prevention and Response Plan prior to the start of construction and maintain a spill kit on-site throughout the life of the project. This plan would include a map that delineates construction staging areas and where refueling, lubrication, and maintenance of equipment may occur. Areas designated for refueling, lubrication, and maintenance of equipment shall be at least 50 feet from Big Chico Creek or the Sacramento River. In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of the Park during construction, the contractor or DPR staff would immediately notify the appropriate DPR staff (e.g., project manager, supervisor, or State Representative).

Equipment will be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds will be disposed of outside park boundaries, at a lawfully permitted or authorized destination.

Mitigation Measure Hazmat-2 Hazardous Substances Contingency Plan

DPR will include, in any contract documents or in internal work plan documents, a Contingency Plan to handle any potential hazardous materials. The Contingency Plan/Health & Safety Plan (Plan) will include methods for safe handling, collection, and proper disposal of any contaminated soil and refuse uncovered during the excavation and grading procedures. The Plan will discuss the proper personal protection during construction, the use of an exclusion zone if necessary to prevent exposure to the public, and the proper disposal procedures for any hazardous substances encountered.

Mitigation Measure Hazmat-3 Construction Fire Management

A fire safety plan will be developed by the contractor and/or DPR and approved by DPR prior to the start of construction. This plan will include the emergency calling procedures for both the California Department of Forestry and Fire Protection (CDF) and the City of Chico Fire Department.

Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers will be required for all heavy equipment.

Construction crews will be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, or concrete to reduce the chance of fire. The contractor will also be required to have fire extinguishers on site. There is no water supply at the Park.

HYDROLOGY AND WATER QUALITY

Mitigation Measure Hydro 1 – Water Quality Protection

Implementation of Mitigation Measure Geo-1 will provide BMPs to control erosion and runoff during the project construction and post-construction. The project would comply with all applicable water quality standards as specified in the CVRWQCB Basin Plan.

Implementation of Mitigation Measure Hazmat 1 will mitigate for impacts to water quality from possible pollutants (fuels and other vehicle fluids released from vehicles and heavy equipment during construction.

Mitigation Measure Hydro-2 – Stormwater Runoff Control

The amount of increased runoff due to the new entrance road and parking lot areas will be determined. The runoff amount should be low due to the use of gravel surfaces instead of impermeable pavement. The surface water runoff will be directed to prevent any on- or off-site erosion or flooding. Runoff can be directed to the north, where it presently flows, toward the existing swale.

It is not anticipated that a Storm Water Pollution Prevention Plan (SWPPP) and associated erosion control plan, as required by the State Water Resources Control Board, will be needed, unless further analysis shows that the total area of ground disturbance will exceed one acre. Erosion and stormwater runoff controls will be utilized, even if a SWPPP is not required. Implementation of Mitigation Measure Hydro-1 will mitigate for impacts from siltation and from vehicle and equipment fluid spills.

Mitigation Measure Hydro-3 – Flood Protection
The planned facilities will be designed to minimize potential damage from flood events, to the extent feasible.

The Park will be closed to the public during any anticipated flood event.

The Park would also be evacuated in the event of a failure of the Shasta Dam.

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CHAPTER 6
REFERENCES

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